

Cover Page

Program ID No. (primary): SWR 80951 Report date: August 2015
TCEQ Region No.: 4 MSD Certificate No.: _____
Additional Program ID Numbers.: SWR/Facility ID No.: _____ PST Facility ID No.: _____
DCRP ID No.: _____ VCP ID No.: _____ LPST ID No.: _____
MSW Tracking No.: _____ HW Permit/CP No.: _____ Enforcement ID No.: _____
Other ID Nos.: EPA CERCLIS TXD980865109

Reason for submittal (check all that apply):
☒ Initial submittal
☐ Revision

Notice of Deficiency Letter
Permit/Compliance Plan
Voluntary response

Enforcement/Agreed order
Directive/NOV letter
Other: _____

On-Site Property Information

On-Site Property (Facility) Name: Former F.J. Doyle Transformer Salvage/Recycling Facility
Street no. 905 Pre dir: N. Street name: Poplar Street type: St Post dir: _____
City: Leonard County: Fannin County Code _____ Zip 75452
Nearest street intersection and location description: 0.344 acres, SW Corner of N. Poplar St and E. Cottonwood St

Latitude: Decimal Degrees (indicate one) North 33.389437
Longitude: Decimal Degrees (indicate one) West 96.243147

Contact Person for On-Site Property Information and Acknowledgment

Company Name or Person: Heirs: Mr. Garry Doyle, Mr. Danny Doyle, Ms. Lynda Kaylor
Contact Name: Mr. Garry Doyle Title: Owner
Mailing Address: Personal Address / Ex. 6
City: Leonard State: TX Zip: 75452 Phone: _____
Email: _____ Fax: _____
Person is: ☒ property owner ☐ property manager ☐ potential purchaser ☐ tenant ☐ operator
other _____

By my signature below, I acknowledge the requirement of §350.2(a) that no person shall submit information to the executive director or to parties who are required to be provided information under this chapter which they know or reasonably should have known to be false or intentionally misleading, or fail to submit available information which is critical to the understanding of the matter at hand or to the basis of critical decisions which reasonably would have been influenced by that information. Violation of this rule may subject a person to the imposition of administrative, civil, or criminal penalties.

Signature of Person Danny Doyle Name (print): Danny Doyle Date: 9-13-15

Consultant Contact Person

Consultant Company Name: Terra-Solve, Inc.
Contact Person: Rick Robertson Title: VP
Mailing Address: PO Box 702522
City: Dallas State: TX Zip: 75370
Phone: 972-267-1900 Fax: _____ E-mail address rick@terra-solve.com

Professional Signatures and Seals

Professional Geoscientist

Charles R. Robertson

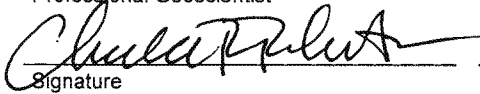
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07/31/2016

Professional Geoscientist

Geoscientist License number

Expiration date



Signature

Date

8/31/15

972-267-1900

Telephone number

rick@terra-solve.com

E-mail

FAX number

Professional Engineer

Professional Engineer

P.E. License number

Expiration date

Signature

Date

Telephone number

FAX number

E-mail

Registered Corrective Action Specialists (RCASs) and Corrective Action Project Managers (CAPMs)

For LPST sites only.

Registered Corrective Action Specialist

RCAS Registration number

Expiration date

Signature

Date

Corrective Action Project Manager

CAPM Registration number

Expiration date

Signature

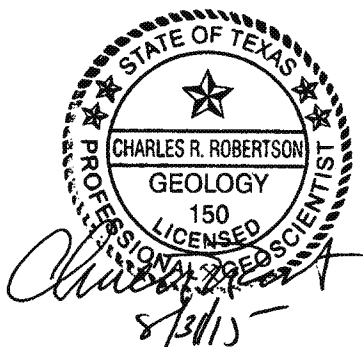
Date

Telephone number

FAX number

E-mail

Seals, as applicable:



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¹ Items marked with an asterisk do not have prescribed formats (for example, laboratory reports).

	Check if included
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Executive Summary

Environmental Media	Actual or Probable Exposures On-Site?		Actual or Probable Exposures Off-Site?		Have notifications for actual or probable exposures been completed? (§350.55(e))		
	Yes	No	Yes	No	Yes	No	N/A
Soil	X		X			X	
Groundwater	X		X			X	
Sediment	X		X			X	
Surface Water		X		X		X	

Is there, or has there been, an affected or potentially affected water well? ☒ Yes ☐ No

If yes, what is the well used for? Public Supply Well, 370 feet to the SW

Actual land use: On-site: Res ☒ C/I Off-site affected property: ☒ Res ☐ C/I ☐ N/A

Land use for critical PCL determination: On-site: ☒ Res ☐ C/I Off-site affected property: ☐ Res ☐ C/I ☐ N/A

Did the affected property pass the Tier 1 ecological exclusion criteria checklist? ☐ Yes ☐ No

Affected groundwater-bearing unit(s) (in order from depth below ground surface), or uppermost groundwater-bearing unit if none affected

Unit No.	Name	Depth below ground surface (ft)	Resource Classification (1, 2, or 3)
1	Shallow	Not assessed	Unknown
2	Woodbine Formation	1,690	1
3			

Assessment

Environmental Media		Assessment Levels Exceeded?						Affected property defined to RAL?			Is COC extent stable or expanding?	General classes of COCs (VOCs, SVOCs, metals, etc.)
		On-Site?			Off-Site?							
		Yes	No	Not sampled	Yes	No	Not sampled	Yes	No	N/A		
Soil	Surface	X			X				X		Unknown	PCB, Mtls
	Subsurface	X			X				X		Unknown	PCB, Mtls
Groundwater				X			X		X		Unknown	PCB, Mtls
Sediment				X			X		X		Unknown	PCB, Mtls
Surface Water				X			X		X		Unknown	PCB, Mtls

NAPL Occurrence Matrix (Unknown, last sampled 1990s)

		NAPL Occurrence	Description
NAPL in vadose zone		No NAPL in vadose zone	There is no direct or indirect evidence of NAPL in the vadose zone
		NAPL in/on soil	NAPL detected in or on unsaturated, unconsolidated clay-, silt-, sand-, and/or gravel-dominated soils
		NAPL in fractured clay	NAPL detected in fractures of unsaturated fine-grained soils
		NAPL in fractured or porous rock	NAPL detected in unsaturated lithologic material
		NAPL in karst	NAPL detected in karst environment
NAPL at capillary fringe		No NAPL at capillary fringe	There is no direct or indirect evidence of NAPL at the capillary fringe
		NAPL at capillary fringe	NAPL detected at vadose-saturated zone transition, capillary fringe (in contact with water table)
NAPL in saturated zone		No NAPL in saturated zone	There is no direct or indirect evidence of NAPL in the saturated zone
		NAPL in soil	NAPL detected in saturated unconsolidated clay-, silt-, sand-, and/or gravel-dominated soils
		NAPL in fractured clay	NAPL detected in fractures of saturated fine-grained soil or other double-porosity sediments
		NAPL in saturated fractured or porous rock	NAPL detected in saturated lithologic material
		NAPL in saturated karst	NAPL detected in karst environment within the saturated zone
NAPL in surface water or sediment		No NAPL in surface water or sediment	There is no direct or indirect evidence of NAPL in surface water or sediments
		NAPL in surface water	NAPL detected in surface water at exceedance concentration levels or visual observation
		NAPL in sediments	NAPL detected in sediments at exceedance concentration levels or visual observation via migration pathway or a direct release

Remedy Decision

Environmental Media		Critical PCL exceeded on-site?			Critical PCL exceeded off-site?			PCLE zones defined?			General class (VOCs, SVOCs, metals, etc.) of COCs requiring remedy
		Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	
Soil	Surface	X			X				X		PCB, metals
	Subsurface	X			X				X		PCB, Metals
Groundwater											Not sampled
Sediment		X			X						PCB, metals
Surface Water											Not sampled

NAPL Triggers (Unknown, last sampled in 1990s)

NAPL Response Action Triggers		Description of Triggers
	No NAPL response action triggers	No NAPL triggers have been observed in any assessment zones (vadose, capillary fringe and saturated), nor in surface water or sediments
	NAPL vapor accumulation is explosive	NAPL vapors accumulate in buildings, utility and other conduits, other existing structures, or within anticipated construction areas at levels that are potentially explosive ($\geq 25\%$ LEL)
	NAPL zone expanding	NAPL zone is observed to be expanding using time-series data
	Mobile NAPL in vadose zone	NAPL zone is observably mobile, or is theoretically mobile based on COC concentrations and residual saturation
	NAPL creating an aesthetic impact or causing nuisance condition	NAPL is responsible for objectionable characteristics (e.g., taste, odor, color, etc.) resulting in making a natural resource or soil unfit for intended use
	NAPL in contact with Class 1 groundwater	NAPL has come in actual contact with saturated zone or capillary fringe of a Class 1 GWBU
	NAPL in contact with Class 2 or 3 groundwater	NAPL has come in actual contact with saturated zone or capillary fringe of a Class 2 or Class 3 GWBU
	NAPL in contact with surface water	Liquid containing COC concentrations that exceed the aqueous solubility in contact with surface water via various migration pathways or direct release to surface water
	NAPL in or on sediments	Liquid containing COC concentrations that exceed the aqueous solubility impact surface water sediments via migration pathway or a direct release

Conclusions and Recommendations

Use this section to summarize the major activities conducted, results, and conclusions of the assessment and to briefly discuss the recommended response actions.

Assessment Results

Investigation of the site began in 1990 by both EPA and TCEQ contractors, and soil samples collected indicated elevated levels of PCBs, yet no cleanup has ever been conducted. Please see the attached comprehensive chronology of the case and a figure showing the previous sampling points and their PCB concentrations. No groundwater samples have been collected.

On-site soils exceed the Tier I Residential PCLs for PCBs, copper, and hexachlorobenzene. Off-site residential properties to the west and south contain affected soil above the Tier I Residential PCLs for PCBs, copper, and hexachlorobenzene. Sediment samples from the Right-of-way's also exceed the Tier I PCLs for the above-mentioned constituents. The horizontal and vertical extent of these constituents in the soil has not been determined.

NAPL Discussion

All previous sample results are included in this report, however documentation of these efforts are incomplete and lost to time. No specific information on the presence or absence of NAPL was available. The proposed additional sampling will address this deficiency. If present, a NAPL management plans and assessment will be developed in accordance with the guidance documents *Risk-Based NAPL Management* (RG-366/TRRP-32) and *NAPL Assessment* (RG-366/TRRP-12A), respectively.

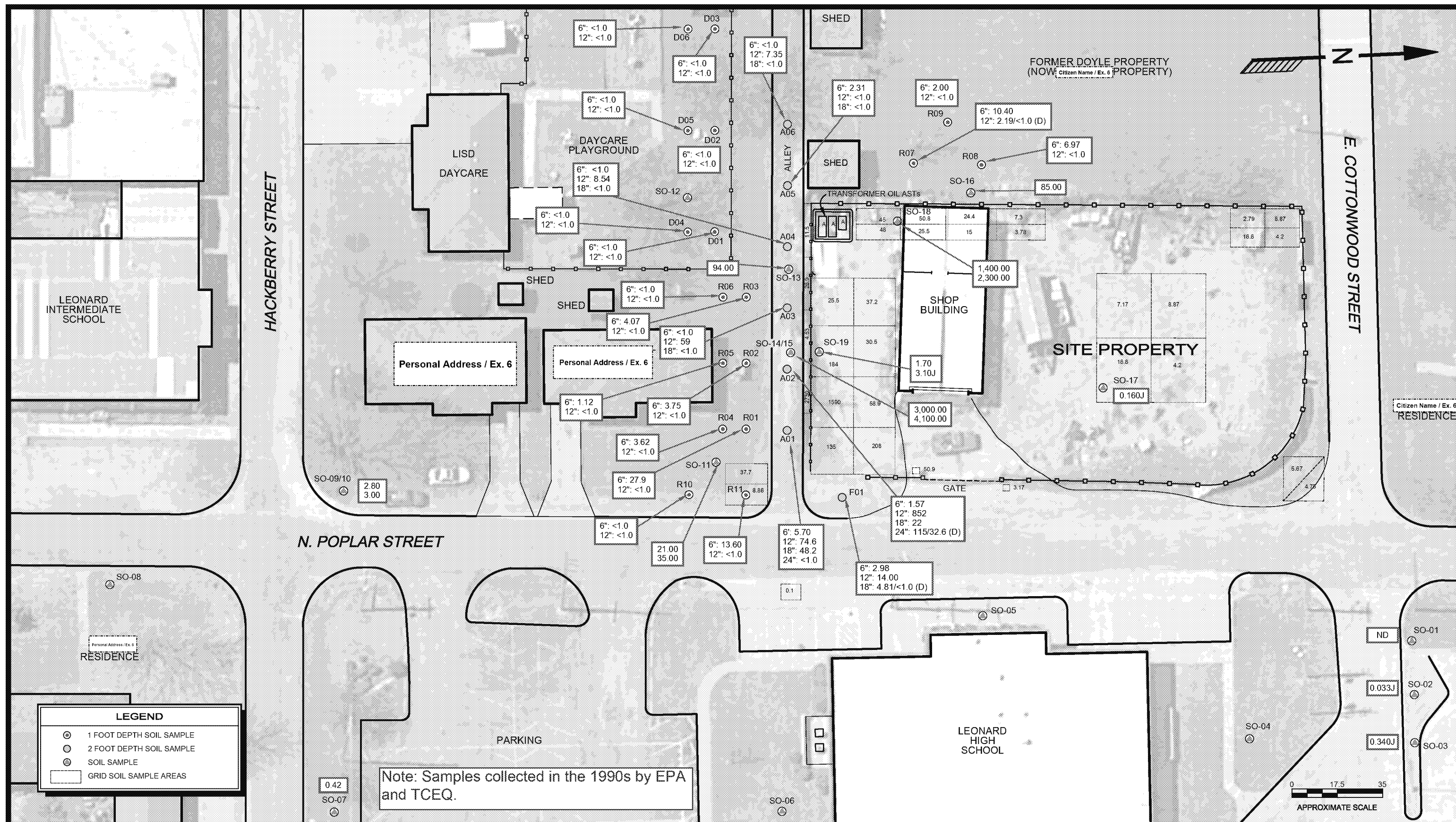
Response Actions and Recommendations

Remedy Standard B allows the use of physical and institutional controls to be used in combination with or in lieu of removal or decontamination of the COCs to block exposure or to control COCs such that exposure does not occur. After the current site conditions and groundwater pathway has been assessed or eliminated, any remaining off-site soils above the PCLs will be removed. The site will be covered by paving and maintained as an engineering control to prevent exposure to any remaining on-site soils above the PCLs. A deed restriction will be filed to prevent exposure to on-site soils exceeding PCLs.

The former F.J. Doyle Transformer Salvage site is planned to be razed and paved over and used for a parking lot for the Leonard ISD High School. It is anticipated that this engineering control and a Deed Restriction will be the ultimate Remedy Standard for the site. Terra-Solve recommends additional soil and groundwater samples be collected on site to determine the current site conditions. Terra-Solve also recommends that additional off-site soil samples be collected from the upper 15 feet of soil near the former soil sample locations and along the drainage ditches around the site perimeter, and that three monitoring wells be installed near the former source areas. Based on these results, the current conditions can be established and the groundwater exposure pathway can be evaluated, and any further efforts to determine the horizontal extent of COCs above the Tier I Residential PCLs that may be required. Any off-site soils exceeding the Tier I Residential PCLs will be removed.

Figure A - Affected Property and PCLE Zone Map

A map illustrating the results of the EPA and TCEQ sampling efforts from the 1990s is attached. As shown on the map, PCBs above the Tier I Residential PCLs are present both on site and off site.



Specialized Submittals Checklist

 X Check here if no specialized submittals in this report

	If included, specify section or appendix
Ecological Risk Assessment	
Reasoned justification, expedited stream evaluation, Tier 2 or 3 ecological risk assessment, and/or proposal for ecological services analysis	
Statistics	
Calculated site-specific background concentrations	
Used alternate statistical methods to determine proxy values for non-detected results (§350.51(n))	
Calculated representative concentrations (§350.79(2)) for remedy decision	
Analytical Issues	
Used SQL for assessment or critical PCL instead of the MQL (§350.51(d)(1)) or PCL (§350.79)	
The MQL of the analytical method exceeds assessment levels/critical PCLs (§350.54(e)(3))	
Human Health/Toxicology	
Variance to exposure factors approved by TCEQ Executive Director ¹ (§350.74(j)(2))	
Developed PCLs based on alternate exposure areas	
Evaluated non-standard exposure pathway (e.g., agricultural, contact recreation, etc)	
Combined exposure pathways across media for simultaneously exposed populations (§350.71(j))	
Adjusted PCLs due to residual saturation, cumulative risk, hazard index, aesthetic concerns, or theoretical soil vapor	
Utilized non-default human health RBELs to calculate PCLs (includes use of non-default parameters, toxicity factors not published in rule, etc.) (§350.51(l), §350.73, §350.74)	
Calculated Tier 2 or 3 RBELs/PCLs or TSCA levels for polychlorinated biphenyls, or calculated Tier 2 or 3 RBELs/PCLs for cadmium, lead, dibenzo-p-dioxins, dibenzofurans, and/or polycyclic aromatic hydrocarbons	
Calculated Tier 1, 2, or 3 total petroleum hydrocarbon (TPH) PCLs	
Developed sediment/surface water human health RBELs and PCLs	
Fate and Transport	
Used or developed groundwater to surface water dilution factors	
Calculated Tier 2 PCL	
Calculated Tier 3 PCL	
Groundwater Issues	
Conducted aquifer test, classified Class 3 groundwater, or determined non-groundwater bearing unit (saturated soil)	

¹ Prior approval by Executive Director is required.

Section 1 Property Information

Use this section to describe the environmental setting, the geology/hydrogeology of the area, general operational history for the property, the affected property, and sources of releases.

Section 1.1 Physical Location

Property Location and Land Use

The site is the location of the former F.J. Doyle Transformer Salvage and Recycling facility. The property is located at 905 N. Poplar Street and consists of two lots of land. The property (total of 0.344 acre) is bounded by E. Cottonwood Street to the north, N. Poplar Street to the east, a single-family residence to the south, and a vacant lot to the west in the city of Leonard in Fannin County, Texas, 75452. The property is abutted by vacant and single family residential properties. Leonard High School is located to the east across N. Poplar Street. The latitude of the center of the property is approximately 33° 23' 22.05" N and the longitude is approximately 96° 14' 35.31" W. The legal description of the property is included in Appendix 16.

The site is owned by Mr. Danny Doyle, Ms. Linda Kaylor, and Mr. Garry Doyle, heirs of the late Mr. Frank J. Doyle. Site Photographs are provided in Appendix A, a Site Vicinity Map and the Site Plan is included in the attachments (Figures 1A and 1B).

Topography

Based on Terra-Solve's review of the United States Geological Survey (USGS) 7.5 Minute Topographic Map of the Leonard, Texas Quadrangle (1964) the property is located at an elevation of approximately 735 feet above mean sea level (MSL). The topography of the area is gently rolling to the south toward Arnold Creek. A copy of the topographic map is included in the attachments (Figure 2C).

Terra-Solve reviewed the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), for Fannin County, Texas, Unincorporated Area, Panel Number 480807 0010B, November 8, 1977. Although the city limits of Leonard are excluded from this map, the proximity of the site to the northeast corner of the city allows Terra-Solve to infer that the property is likely located in Zone X, considered outside the 500-year flood zone. This designation is not considered to present an environmental concern to the property. A copy of the FEMA map is located in the attachments.

Weather

In recent years, the area has experienced significant periods of drought, followed by near record rainfalls in 2015. Leaching to lower depth during dry periods and smearing of oil in the subsurface due to fluctuating water table periods is possible. Metals are not particularly mobile vertically (pH dependent), but runoff from contaminated site soils/sediment could impact soil along drainage ditches bordering the site. Average rainfall is approximately 45 inches per year. The effect of these variations and overall lowering on COC transport and distribution depends on the nature of the COC. For LNAPLs, it has the effect of creating a "smear" zone. However, for the COCs at the site (PCBs and metals), drought conditions would not appreciably exacerbate

their effect.

Section 1.2 Affected Property and Sources of Release

History and Operations

Transformer were salvaged, oil was drained, and copper was recovered from the salvaged transformers at the site from 1974 to 1999. Initially oil was used as weed killer on site and distributed to others in the community as weed killer. Later recovered oil was stored in aboveground tanks and drums. The land is improved by two buildings, a 2,190 square-foot shop and a 450 square-foot shed. A portable building and a concrete containment sump with three aboveground storage tanks are also present. The site has subsequently been used as a vehicle repair and tire shop.

During site reconnaissance conducted by Terra-Solve in November of 2009, the following items were observed:

- Terra-Solve observed a solvent parts washer in the warehouse repair area. The warehouse and office storeroom also store various amounts of general cleaning and general maintenance supplies.
- Three aboveground storage tanks (ASTs) are present in a secondary containment basin at the southwest corner of the property. All three were reported to previously have been used to store residual transformer oil during the transformer salvage operations. The three tanks still retain a “No PCB” sticker near their fill pipes. The ASTs are located in a concrete secondary containment basin with a valve for draining the containment after rain events after the operator first examines the water to insure that no sheen or floating oil is present. The containment was over half full of rainwater at the time of the site visit, and significant debris and hydrocarbon sheen on the water was observed. The drain was closed, but was not locked.
- A kerosene-dispensing AST was observed on the north side of the shop building. The AST appeared to be empty, but this could not be confirmed.
- Numerous 55-gallon drums of new/used oil and hydraulic fluid are located in and around the shop and numerous used and emptied drums are stored in and around the secondary containment basin.
- Numerous areas of oil staining were observed on the concrete inside the shop building and staining was observed near the secondary containment basin and hydrocarbon sheens were observed in the parking lot.
- One pole-mounted transformer is located across N. Poplar Street east of the shop building, and four other pole-mounted transformers are located across N. Poplar Street from the northeast corner of the site. One old transformer from the salvage business is still located inside the shop building. The active units are owned and serviced by Texas New Mexico Power Company (TNMP) and one of the four is considered to possibly contain PCBs.
- The remaining transformer inside the shop at the site has a “No PCBs” sticker and is left over from the transformer salvage operations at the site.

- Terra-Solve observed numerous unidentified containers on the property, mostly inside and near the shop building and on-site trash cans for authorized disposal. However, a large amount of debris and parts are stored on site.

As stated earlier, the future planned use of the site is for a parking lot for Leonard ISD.

Project Overview

This site is located adjacent to a high school, a school-owned daycare, and several residences. Investigation of the site began in 1990 by both EPA and TCEQ contractors, and samples collected indicated elevated levels of PCBs on the site and on some adjacent properties, yet no cleanup has ever been conducted. Please see the attached comprehensive chronology of the case and a figure showing the previous sampling points and their PCB concentrations.

CHRONOLOGY OF EVENTS

FORMER F.J. DOYLE SALVAGE TRANSFORMERS

Personal Address / Ex. 6

LEONARD, FANNIN COUNTY, TEXAS

EPA CERCLIS NO. TXD980865109 / TCEQ SWR 80951

TERRA-SOLVE PROJECT NO. 09724

DATE

ACTIVITY

1974-1989

1974	Mr. Frank Doyle began operations at the site for reclamation of electrical transformers. The wiring and scrap metal were recycled and the residual oil was used for weed killer both on site and was distributed to others within the City of Leonard. [Note that Terra-Solve was informed by the owner the site began operations in 1976].
1976	Mr. Doyle indicated that after this date, no transformers containing PCBs were accepted at the facility.
01/21/88	Mr. Doyle began application to the Texas Air Control Board (TACB) for a special air operating permit to allow for operation of a heat cleaning unit at the site.
03/22/88	A public hearing was held on the above air permit application.
06/27/88	TACB issued an Agreement and Stipulation of Facts in lieu of the hearing on June 28, 1988.
07/15/88	TACB issued an order so the permit could not later be challenged by its opponents.
08/23/88	TACB issued the permit
04/22/89	Mr. Doyle applied for the air operating permit

1990

07/20/90	EPA conducted a PCB Inspection at the site. <i>No record of this work has been located by subsequent EPA contractors even as early as May 1997.</i>
10/12/90	Ecology & Environment Technical Assistance Team (TAT), an EPA contractor, conducted a Site Assessment sampling investigation. <i>No record of this work has been located by subsequent EPA contractors even as early as May 1997.</i>

1991 - 1992

04/05/91	Texas Air Control Board (TACB) issued an air permit to allow for operation of a combustion unit at the site.
04/19/91	Ecology & Environment TAT, an EPA contractor, conducted another Site Assessment sampling investigation. <i>No record of this work has been located by subsequent EPA contractors even as early as May 1997.</i>

1993-1994

- 1993 Mr. Frank Doyle registered the site with TCEQ for various non-hazardous waste disposal for non-PCB oil, ash residue, plant refuse, various storage containers, and a Dumpster.
- 09/07/94 EPA conducted another **PCB Inspection** at the site. *No record of this work has been located by subsequent EPA contractors even as early as May 1997.*
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1995-1996

- 05/23-24/95 Worldwide Reclamation, a Doyle contractor, under supervision of EPA, conducted surface and subsurface **soil sampling**. *No record of this work has been located by subsequent EPA contractors even as early as May 1997.*
- 07/10-12/95 Ecology and Environment TAT, an EPA contractor, conducted a **Site Assessment (SA)** sampling investigation. A total of 68 samples were collected from the site, the alleyway, and the neighboring residences to the south, west, and east. Elevated levels of PCBs were found both on- and off-site. On-site levels ranged from 50.9 ppm to 2,730 ppm. Alleyway levels ranged from 5.7 ppm to 857 ppm while off-site residence levels ranged from 10.44 ppm to 37.7 ppm
- 07/95 Site was entered in CERCLIS database.
- 08/31/95 Ecology and Environment, EPA TAT, issued a **Site Assessment (SA) Report** recounting the above findings and requested a meeting with Mr. Frank Doyle at their offices no later than 09/15/95 to discuss *"removing and disposing of this contamination in an expeditious manner."*
- 10/4/95 Mr. Doyle met with three EPA officials as requested above. The contents of this meeting are unknown. However, files indicate calculations regarding the cubic yardage of affected materials were made by hand; these calculations show 94.21 cubic yards of on-site soil and 86.98 cubic yards of off-site soil for a total of 181.19 cubic yards would be needed to be removed presumably to meet the above requirements.
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1997

- 01/97 Frank Doyle retired and Gary Doyle, his son, became the operator of the site.
- 05/20/97 Fluor Daniel, EPA TAT, conducted a site reconnaissance. EPA issued its **Preliminary Assessment Report (PA)** later that month. This report set that groundwater and soil exposure pathways were the only exposure pathways of concern.
- 07/21/97 EPA Screening Site Inspection (SSI) was approved to evaluate these pathways.
- 12/18/97 TCEQ issued a **Screening Site Inspection (SSI) Work Plan** to allow for further evaluation of the site using the above pathways of concern.
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1998 - 1999

- 01/13-14/98 TCEQ personnel conducted SSI work with sampling of city water supply wells and collection of on- and off-site soil samples. The groundwater samples did not contain metals or PCBs. Analysis of soil samples from 17 locations indicated that

moderate levels of copper were detected at two on-site sample locations. PCBs were found on site and along drainage ditches away from the site.

09/98 TCEQ issued **SSI Report** on the above findings.

08/99 The site ceased operations.

2000-2009

06/29/00 The Texas Department of Health (TDH), under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR), issued a **Health Consultation Report** which recommended that further delineation of the extent of PCB-affected soil be conducted, or that the soil be removed.

2001 Based on the above, the ATSDR chose not to enter the site into National Priorities List (NPL) for superfund sites.

07/14/06 TCEQ issued Unit Closure Request Letter to Mr. Frank J. Doyle.

10/23/06 Danny Doyle responded to the above letter noting the passing of his father earlier that year and requesting clarification on what TCEQ was specifically requesting.

01/26/07 TCEQ responded to the above letter directing that a closure report for the waste management units (WMUs) be submitted and that an **Affected Property Assessment Report (APAR)** be completed.

02/09/07 Mr. Danny Doyle emailed a response to the above letter.

09/05/08 TCEQ issued Second Request Letter reiterating the 01/26/07 letter requirements above.

08/10/09 TCEQ created a Case File Memorandum which noted that due to the lack of response to the above letters, the case was being considered for Notice of Violation (NOV) and that the 3rd letter would be the NOV.

08/24/09 Mr. Danny Doyle emailed again to TCEQ regarding the above letter in anticipation of a potential sale of the property.

09/11/09 TCEQ responded to the above email with a new point of contact, Mr. Pindy Lall.

11/05/09	A client contracted with Terra-Solve to conduct a Phase I ESA of the site.
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11/20/09 Terra-Solve conducted site reconnaissance for the Phase I ESA and met with Mr. Gary Doyle at the site.

11/30/09 Terra-Solve issued Freedom of Information Act (FOIA) request to EPA.

12/04/09 EPA issued response letter to the above FOIA request and Terra-Solve issued the Phase I ESA Report to the client noting this response.

12/15/09 EPA requested an extension in response time to 12/30/10.

2010 - 2013

01/08/10 The client faxed additional information from Mr. Doyle to Terra-Solve. This information consisted of the items above with asterisks (*) next to the dates. Terra-Solve contacted Mr. Pindy Lall of TCEQ, the latest point of contact, and he requested a few days to familiarize himself with the case file.

01/19/10 Mr. Pindy Lall of TCEQ contacted Terra-Solve to discuss the case. He indicated that the items requested in the 01/26/07 letter (WMU closure reports and APAR investigation) are still required to complete work on the site.

01/30/10 Terra-Solve received a CD-ROM from EPA with the various reports referred to in the above entries and assembled this comprehensive chronology of site events.

02/03/10 Terra-Solve submitted a proposal to the client to arrange for and attend a meeting with TCEQ to discuss

02/08/10 Terra-Solve received a copy of the Central File Registry records from TCEQ and updated this chronology.

03/22/10 Terra-Solve received authorization to send the above information to TCEQ from the client and its attorney, Abernathy Roeder.

04/14/10 Terra-Solve submitted this information to Mr. Pindy Lall of TCEQ after several weeks of attempted contacts. Mr. Lall later contacted Terra-Solve regarding the above email submissions of EPA documents and directed Terra-Solve to submit a formal letter requesting review of this information.

04/15/10 Terra-Solve submitted the above-requested letter.

06/18/10 TCEQ issued a letter to Terra-Solve which outlined a "path to closure" for the site. Specifically, the letter directed the following:

- (1) Surface soils be delineated horizontally to 1.1 ppm PCBs and copper and hexachlorobenzene to their Risk-Based levels;
- (2) Vertical soil delineation to method quantitation limits (MQLs) or collect groundwater samples, in which case the entire soil column is assumed to be contaminated;
- (3) If the site enters the Voluntary Cleanup Program (VCP), a groundwater sample will be required;
- (4) If the entire soil column is assumed to be contaminated, a control such as a parking lot that serves as impervious cover may be implemented to prevent exposure, but such a measure would require maintenance to ensure integrity of the lot, and any uncovered areas would have to be removed, decontaminated, and/or otherwise controlled; and
- (5) Demonstration that the drainage ditches are not impacting surface water will be needed.

2014

04/24/14 Terra-Solve contacted by Abernathy Roeder regarding a possible sale of the subject property and asked to facilitate a meeting between all regulatory parties.

06/26/14 Terra-Solve and Abernathy Roeder met with Mr. James Sales of EPA Region VI at his office and also teleconferenced in Mr. Pindy Lall of TCEQ.

08/11/14 Terra-Solve and Abernathy Roeder met with other interested parties at the site to go over probably boring and well locations. It was determined that if the likely amount of agency-directed assessment and analysis was going to ultimately be required, the cost of such work would likely make the project untenable based on the value of the property. It was agreed that Terra-Solve would contact Pindy Lall to discuss these concerns.

08/13/14 After receiving non-deliverable replies to emails to Pindy Lall, Terra-Solve learned that Mr. Lall left the agency a few days previously. Terra-Solve attempted to find who the new coordinator is by telephone and in person on 08/14/14.

08/22/14 Terra-Solve submitted a letter to Mr. Richard Scharlach of TCEQ recapping the recent (2014) events and requesting a new case coordinator be assigned.

08/25/14 TCEQ assigned a new coordinator, Mr. Rodney Bryant.

09/02/14 TCEQ assigned a different coordinator, Ms. Eleanor Wehner, PG. Terra-Solve conferred with Ms. Wehner and wrote an update letter dated 09/10/14 which gave some hope for a reduced sampling scheme, particularly if the site did NOT go into the VCP. She did note, however, that a Drinking Water Survey was needed.

09/12/14 Terra-Solve conferred with Ms. Stephanie Kirschner of TCEQ regarding the availability of brownfields funds for the site. As the site is being contemplated for purchase by a non-profit group, these monies are available. A letter providing this information was submitted to the parties on 09/15/14 and a proposal for completion of the forms was submitted on 09/16/14.

10/21/14 Terra-Solve was engaged to complete the Brownfields Site Assessment (BSA) application.

10/23/14 Terra-Solve submitted the BSA application to Abernathy Roeder and the client.

2015

04/21/15 Terra-Solve contacted by **Citizen Name / Ex. 6** regarding redevelopment of the site. Terra-Solve confirmed with Leonard ISD that no conflict of interest exists.

04/24/15 Terra-Solve spoke with Ms. Wehner who confirmed that she sent a letter to Mr. Doyle on 03/30/15 directing that the APAR and WMU Closure be conducted forthwith or that enforcement procedures would begin.

04/27/15 Terra-Solve met with **Citizen Name / Ex. 6** to discuss the site.

Section 1.3 Geology/Hydrogeology

According to the *Geologic Atlas of Texas, Sherman Sheet* (1967, revised 1991) the property is located on Upper Cretaceous-age Gober Chalk. This formation is characterized by bluish-gray chalk with clay that weathers white and is brittle. This formation is up to 400 feet thick but is thinner in the east.

The *Soil Survey of Fannin County, Texas* (NRCS on line data, 2001) indicates that the on-site soils are classified as Fairlie-Dalco complex, 1-3 percent slopes. These soils consist of deep, moderately well drained soils. The typical soil profile consists of dark-gray to black silty clay loam to a depth of 24 inches underlain to a depth of 35 inches by dark gray silty clay. From 35-54 inches black clay is present overlying white platy chalk of the Austin Chalk Formation/Gober Chalk.

Records of the previous assessments conducted by the TCEQ and EPA have been lost to time. A subsurface soil investigation would be needed to verify actual soil types and conditions. Such an evaluation was beyond the scope of this assessment.

As interpreted from the USGS topographic map, local shallow groundwater in the property area is anticipated to be between 10 feet and 20 feet below ground surface. Groundwater flow direction is likely generally south to southwestwardly toward Arnold Creek. Therefore, in assessing potential external environmental impact, properties located north to northeast of the property are of primary concern due to their inferred up gradient locations. However, actual groundwater gradient is often locally influenced by factors such as underground structures, seasonal fluctuations, soil and bedrock geology, production wells, and other factors beyond the scope of this study.

Based on Terra-Solve's review of the Geological Atlas of Texas, Sherman Sheet (1967, revised 1991), and Ground-Water Quality of Texas (1989), the property is underlain by the Trinity major aquifer and Woodbine minor aquifer. The upper Woodbine could be a minor source of water at a depth of 100-200 feet in its lower, more sandy sections. The Trinity Aquifer consists of the early Cretaceous age Paluxy, Glen Rose, and Twin Mountains-Travis Peak formations. Extensive historical development of the Trinity Aquifer in the Dallas-Fort Worth region has caused the water level to drop as much as 550 feet. Since the mid-1970s, many public water supply wells have been abandoned, and surface water is currently the primary water source for the area. However, the wells in Leonard are still in use.

The State Database of Well Information (SDWI) of the Texas Water Development Board database (Figure 2C) indicates that there is one registered water well within 0.5 miles of the property. This one well is an active public supply well, City Well #1, installed in 1957 in the Woodbine Formation and is 1,690 feet deep. This well is the primary source of drinking water for the City of Leonard (Appendix 13, Photograph 8).

Estimated groundwater levels and/or flow directions may vary due to seasonal fluctuations in precipitation, local usage demands, geology, underground structures, or dewatering operations, and can be more accurately determined through the installation of groundwater monitoring wells.

Table 1A - Sources of Release

List the sources (for example: landfill, tank, impoundment) being addressed under this assessment which are contributing COCs to each affected property. Use the inputs from the list provided below to complete Table 1A. For each source, provide the type of source, applicable NOR unit or SWMU numbers, substances of potential concern, the size of the source (capacity, area, or volume as applicable), and specify the status of the release source. Indicate whether a release from the source has been confirmed, provide the method of release discovery, and the date the release was discovered. Include the date if the status is “closed.”

Inputs list for Table 1A (do not include this list in the report)

Column 1	Column 2	Column 3	Column 4
Types of Potential Sources	Substances of Potential Concern	Status of Source	Method of Release Discovery
Container	Acid solution	Active	Site assessment
Container storage area	Adhesives/epoxy	Inactive	Spill incident
Landfills	Caustic solution	Abandoned	NAPL discovery
Piping/distribution system	Dioxins/furans	Closed - specify date closed	Water well impact
Spills	Explosives	Other (specify)	Vapor impact
Sump	Fertilizer		Surface water/sediment impact
Surface impoundments/ponds/lagoons	Halogenated hydrocarbons		Release detection equipment
Tanks	Lacquer/varnish		Other (specify)
Wash/repair areas	Metals		
Waste piles	Paint/ink/dyes		
Waste treatment unit	Paint thinner		
Waste water treatment unit	PCBs		
Other (specify)	Pesticide (herbicide, insecticide)		
	Petroleum Hydrocarbons (specify): gasoline, aviation gas, jet fuel (type), diesel, lube oil, hydraulic oil, used oil, etc.		
	Radionuclides		
	Wood preservatives		
	Other (specify)		

Table 1A. Sources of Release (see input values on preceding page)

Affected property name/number ¹	Name of potential source ² (supplied by the person)	Type of potential source (select from Column 1 on Inputs list)	NOR unit or SWMU number, if applicable	Substances of potential concern (select from Column 2 on Inputs list)	Size of source (capacity, area, or volume)	Status of source (select from Column 3 on Inputs list)		Was a release from this source confirmed? (if yes, indicate the discovery method from Column 4 on Inputs list, and date release was discovered)			
						Status ³ :	If closed or other, list date closed or explain:	No	Yes	Discovery method	Date
Site	Transformers	Transformer	001, 002, & 003	Oil, PCBs, Metals	Unknown	Abandoned			X	Samples	1990s
Off Site	Transformers	Transformer	001, 002, & 003	Oil, PCBs, Metals	Unknown	Abandoned			X	Samples	1990s
Site	ASTs, Drums	Transformer Oil	001, 002, & 003	Oil, PCBs, Metals	Unknown	Unknown			X	Samples	1990s
Site	ASTs, Drums	Car maintenance and repair activities	001, 002, & 003	Petroleum hydrocarbons, metals, solvents	Unknown	Unknown		X			
Site	Dumpster	Plant Trash	003	Unknown	4 yds.	Unknown		X			
Off Site	ASTs, Drums	Car maintenance and repair activities	001, 002, & 003	Petroleum hydrocarbons, metals, solvents	Unknown	Unknown		X			

SWMU:

001: Various storage tanks- one 375-gallon AST, two 500-gallon ASTs, and one 55-gallon drum on the concrete pad.

002: High temperature oven to burn varnish off copper.

003: Dumpster, 4 yds. for accumulation of plant trash.

¹ The name or number is an identification of the affected property assigned by the person. Continue using the name or number identification throughout this report and all other correspondence on the affected property.

² The potential source is the source of the release. The person determines the name given to the potential source. Examples: northwest tank farm, Main Street landfill, etc.

³ Specify whether the source status is active, inactive, abandoned, closed, or specify another status as appropriate.

Table 1B - Potential Off-Site Sources

Table 1B. Potential Off-Site Sources

Affected property name/number	Off-site facility/site name	Physical address	Regulatory ID number	Type of operation/business	Years of operation (if known)	COCs
none						

Attached:

Figure 1A - On-Site Property Map

Included in the attachments.

Figure 1B - Affected Property Map

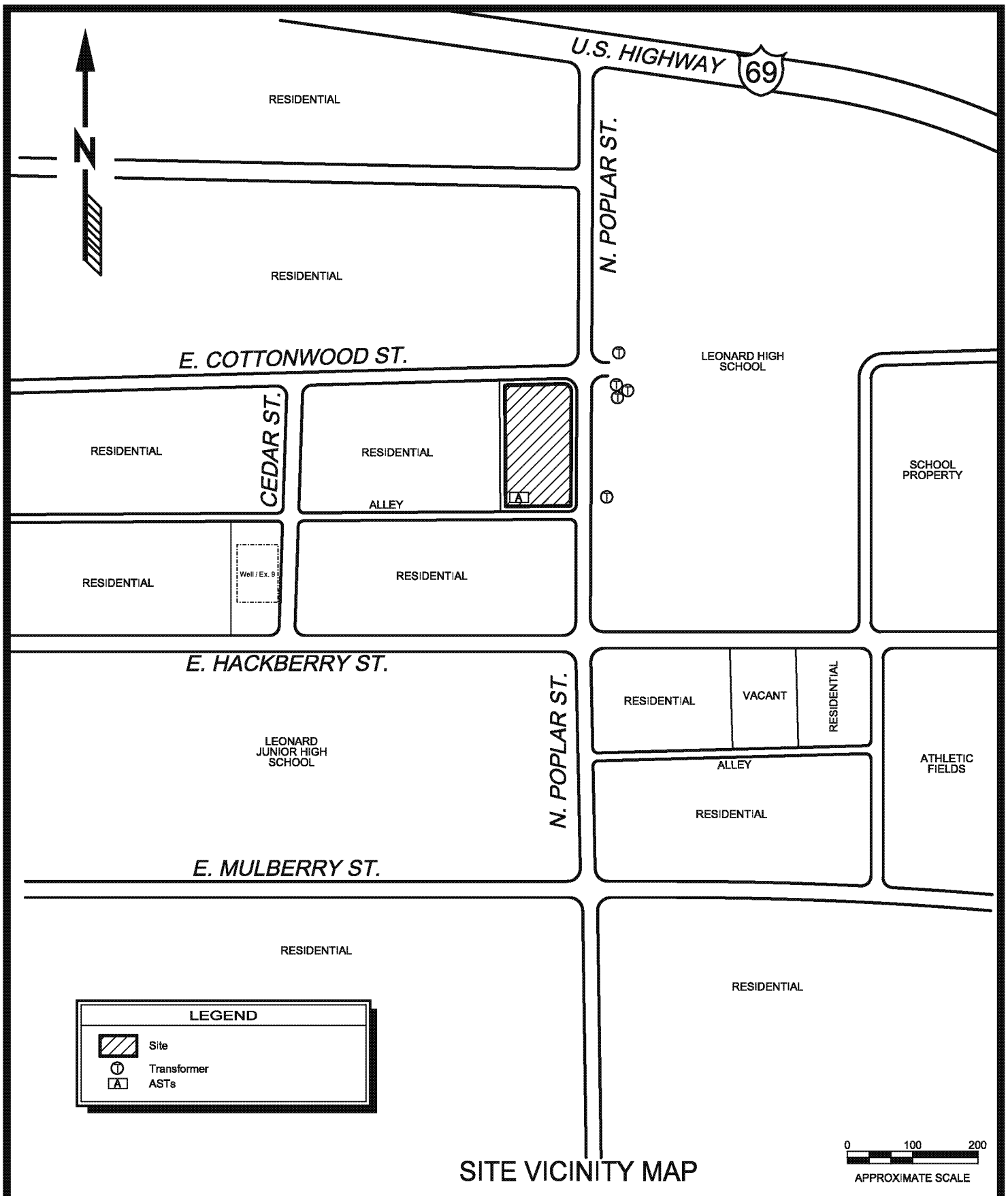
Included in the attachments.

Figure 1C - Regional Geologic Map

Included in the attachments.

Figure 1D - Regional Geologic Cross Section(s)

Included in the attachments.



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ENVIRONMENTAL CONSULTANTS
3216 COMMANDER DRIVE, SUITE 103
CARROLLTON, TX 75006-2518
PHONE (972) 267-1900
FAX (972) 267-1902
RCAS NO. 00530

TWO LOTS OF IMPROVED LAND

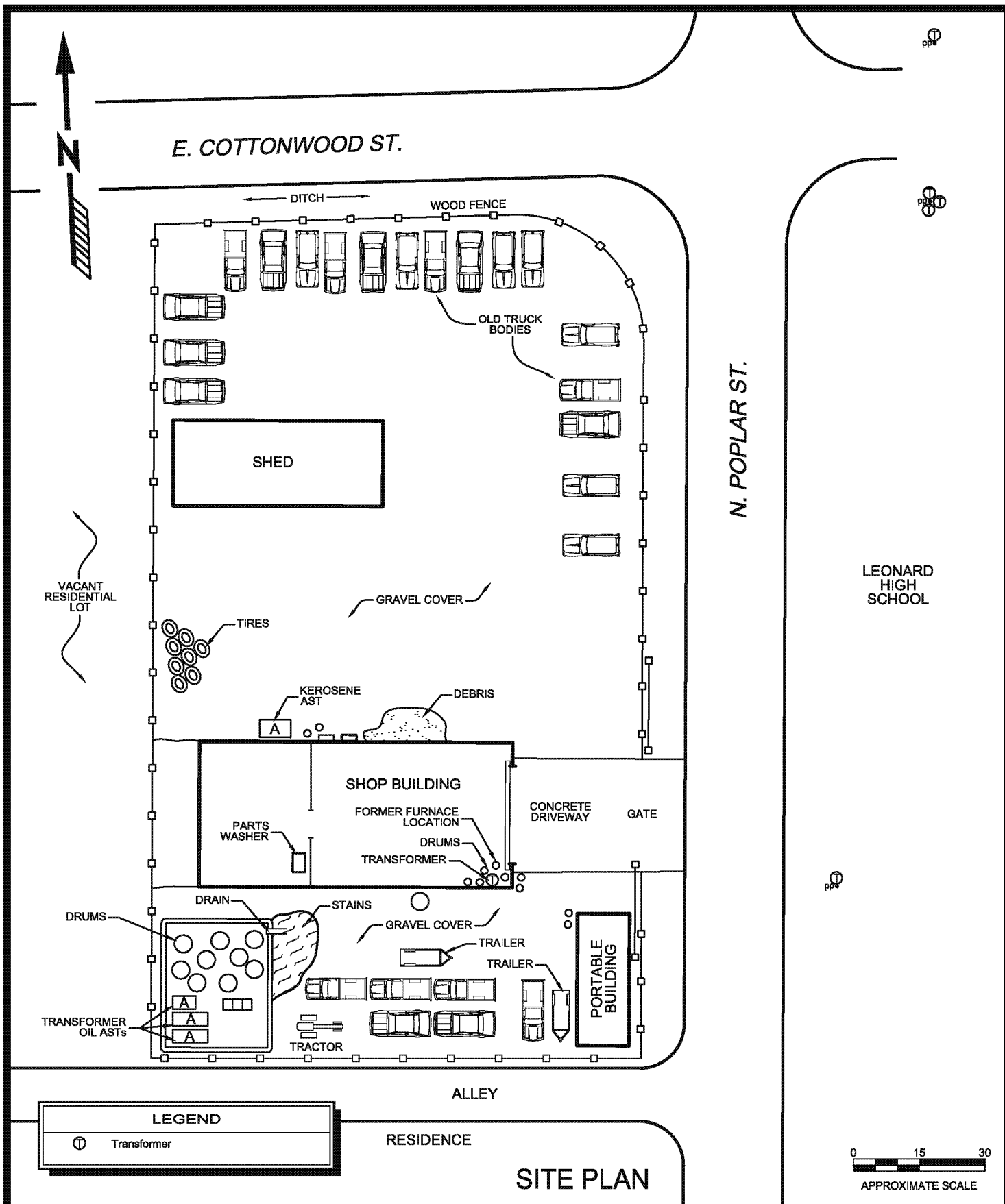
APPROXIMATELY 0.344 ACRES
905 N. POPLAR STREET
LEONARD, FANNIN COUNTY, TEXAS

DATE:
NOV. 2009

PROJECT NO.:
09724

SCALE:
SEE ABOVE

FIGURE NO.:
1 A



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1B

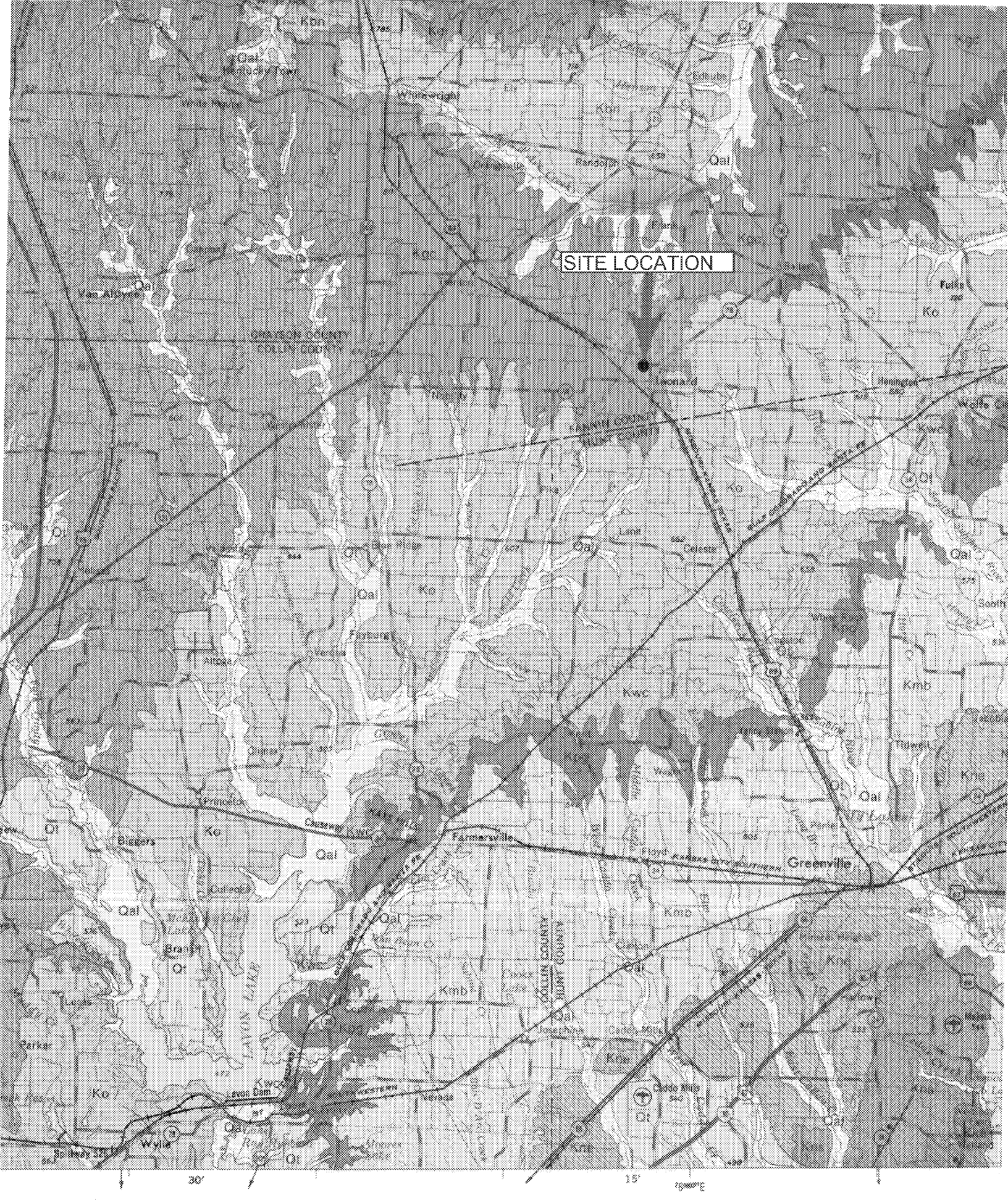


Figure 1C - Regional Geologic Map
Geological Atlas of Texas, Sherman Sheet (1967, revised 1991)

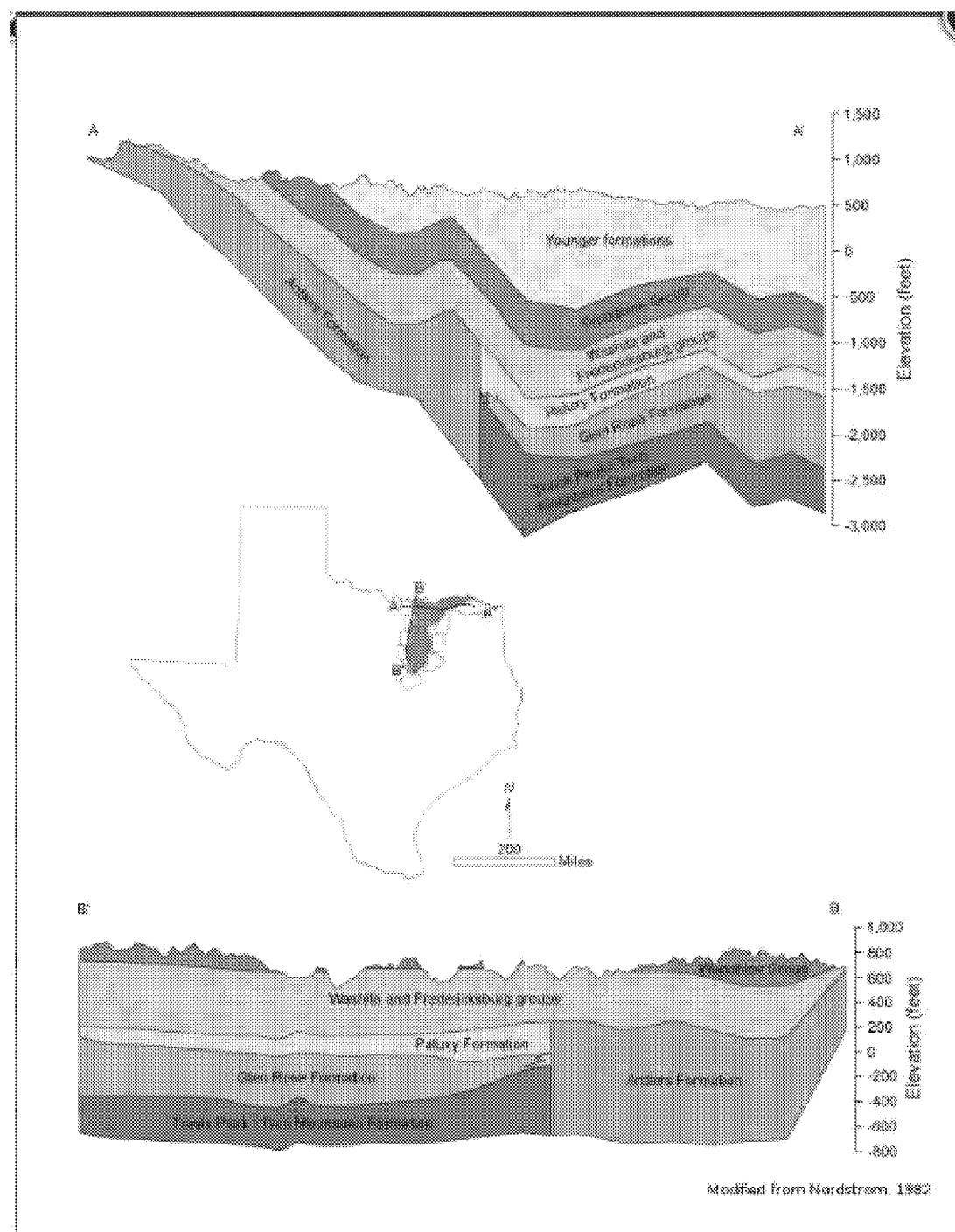


Figure 1D - Regional Geologic Cross Section

<https://www.twdb.texas.gov/groundwater/aquifer/minors/woodbine.asp>

Section 2 Exposure Pathways and Groundwater Resource Classification

Section 2.1 Source(s) of Potable Water for On-Site Property and Affected Off-Site Properties

The source(s) of potable water for the real property within the affected property and presumable all the vicinity, are municipal public supply water wells. The supplier is the City of Leonard, the owner of the several wells throughout the city which are used to supply city residences and businesses. The nearest well, No. 18-393701, is located approximately 370 feet southwest of the affected property. This well produces from the Woodbine Formation and is 1,690 feet deep. Given the depth of this well, it is unlikely that it would be impacted from affected shallow groundwater, if present.

No field walking survey has been performed, but it is likely that all real properties within the 500-foot field receptor survey radius are connected to the public water supply.

It is unknown if the City of Leonard has any ordinances or deed restrictions applicable to the affected property that prevent or restrict the installation of water wells.

Section 2.2 Field Receptor Survey

No 500-ft field door-to-door walking receptor survey has been conducted. As part of a Phase I ESA, site reconnaissance was performed by Terra-Solve on November 20, 2009, a limited “drive-by” survey of surrounding properties was conducted. The property (total of 0.344 acre) is bounded by E. Cottonwood Street to the north, N. Poplar Street to the east, a single-family residence to the south, and a vacant lot to the west in the city of Leonard in Fannin County, Texas, 75452. The property is abutted by vacant and single family residential properties. Leonard High School is located to the east across N. Poplar Street.

Section 2.3 Records Survey

As part of a Phase I ESA conducted in 2009, Terra-Solve requested a survey of records on receptors available within one-half mile radius of the affected property, including both on-site and off-site properties. This information, gathered by GeoSearch, Inc., of Austin, Texas, researched the databases of the Texas Water Development Board (TWDB), and the Texas Commission on Environmental Quality (TCEQ). Copies of the records survey results are included in Appendix 5; the list of sources of information used are included in Appendix 16.

Section 2.4 Receptor Survey Results

A single family residences is located north across E. Cottonwood Street. A vacant lot with single a family residence beyond abuts the site on the west side. An alley with a single family residence and a Leonard ISD daycare facility beyond is located south of the site. Leonard High School is located to the east across N. Poplar Street.

The general land use in the area is primarily residential. The site is located on a topographic high and the immediate site vicinity slopes away in all directions. Based on Terra-Solve's review of the United States Geological Survey (USGS) 7.5 Minute Topographic Map of the Leonard, Texas Quadrangle (1964) the property is located at an elevation of approximately 735 feet above mean sea level (MSL). The topography of the area is gently rolling to the south toward Arnold Creek. A copy of the topographic map is included in Appendix H.

One water well was found in the 0.5-mile radius search. No intermittent or perennial surface water bodies are present in the immediate area; drainage ditches are located along E. Cottonwood Street on the north side of the site and along E. Poplar Street on the east side of the site. The nearest surface water body, Arnold Creek, is located approximately one mile south-southwest of the site.

One water well was noted in the database search within the 0.5-mile radius search of the site. Based on Terra-Solve's review of the Geological Atlas of Texas, Sherman Sheet (1967, revised 1991), and Ground-Water Quality of Texas (1989), the property is underlain by the Trinity major aquifer and Woodbine minor aquifer. The upper Woodbine could be a minor source of water at a depth of 100-200 feet in its lower, more sandy sections. The Trinity Aquifer consists of the early Cretaceous age Paluxy, Glen Rose, and Twin Mountains-Travis Peak formations. Extensive historical development of the Trinity Aquifer in the Dallas-Fort Worth region has caused the water level to drop as much as 550 feet. Since the mid-1970s, many public water supply wells have been abandoned, and surface water is currently the primary water source for the area. However, the wells in Leonard are still in use. The State Database of Well Information (SDWI) of the Texas Water Development Board database (included in Appendix K) indicates that there is one registered water well within 0.5 miles of the property. This one well is an active public supply well, City Well #1, installed in 1957 in the Woodbine Formation and is 1,690 feet deep. This well is the primary source of drinking water for the City of Leonard. Given the depth of this well, it is unlikely that it would be impacted from affected shallow groundwater, if present.

Section 2.5 Groundwater Resource Classification

Groundwater beneath the site has not been assessed.

Section 2.6 Exposure Pathways

The previous soil samples collected by EPA and TCEQ in the early 1990s identified PCBs, copper, and hexachlorobenzene in excess of the current Tier I Residential 0.5-acre source area PCLs. These levels were identified on the site, on the residential vacant lot to the west, in the alley, and on residential properties to the south.

The primary exposure pathways for PCBs is through contact with soil or sediment. According to the EPA, PCBs are very persistent, hydrophobic, and generally do not migrate. However, there are some site characteristics that may have a bearing on the potential of PCBs to migrate. For example, PCBs in oil will be mobile if the oil itself is present in a volume large enough to physically move a significant distance from the source. Soil or sediment characteristics that affect the mobility of the PCBs include soil density, particle size distribution, moisture content, and permeability. Additionally, meteorological and chemical characteristics such as amount of precipitation, organic carbon content, and the presence of organic colloids also affect PCB

mobility.

Because of the stability of PCBs, many exposure routes must be considered: dermal exposure; ingestion of PCB-contaminated soil, water, and food; and inhalation of ambient air contaminated with PCBs. PCBs have a high potential for bioaccumulation, which is an important factor to consider due to their ability to accumulate in aquatic environments such as lakes, rivers, and harbors. Although not very common, volatilization and other transport mechanisms may remove PCBs from the contaminated soil or sediment or entrain them into the air. Remedies involving excavation may create short-term exposures to workers and surrounding communities from inhalation of dust emissions (EPA/540/S-93/506, October 1993: *Technology Alternatives for the Remediation of PCB-Contaminated Soil and Sediment*). PCBs are recognized as a carcinogen.

Generally, copper is not mobile in soils. It is attracted to soil organic matter and clay minerals. In general, maximum retention of cationic metals occurs at $\text{pH} > 7$ and maximum retention of anionic metals occurs at $\text{pH} < 7$. Because of the complexity of the soil-waste system, with its myriad of surface types and solution composition, such a generalization may not hold true. For example, cationic metal mobility has been observed to increase with increasing pH due to the formation of metal complexes with dissolved organic matter. Copper is retained in soils through exchange and specific adsorption mechanisms. At concentrations typically found in native soils, Cu precipitates are unstable. This may not be the case in waste-soil systems and precipitation may be an important mechanism of retention. It is suggested that a clay mineral exchange phase may serve as a sink for Cu in noncalcareous soils. In calcareous soils, specific adsorption of Cu onto CaCO_3 surfaces may control Cu concentration in solution. Copper is adsorbed to a greater extent by soils and soil constituents than the other metals studied, with the exception of Pb. Copper, however, has a high affinity for soluble organic ligands and the formation of these complexes may greatly increase Cu mobility in soils (EPA/540/S-92/018, October 1992: *Behavior of Metals in Soils*).

Hexachlorobenzene (HCB) is classified as a carcinogen. HCB is a highly persistent environmental toxin that was synthesized and used from the 1940s to the late 1970s as a fungicide on grain seeds such as wheat. The use of chlorinated organic compounds in industrial chlorination processes is also known to inadvertently generate HCB wastes.

HCB is considered a probable human carcinogen and is toxic by all routes of exposure. The general population appears to be exposed to very low concentrations of HCB, primarily through ingestion of meat, dairy products, poultry, and fish. Ingestion of HCB-contaminated fish is potentially the most significant source of exposure. HCB bioaccumulates in fish, marine animals, birds, lichens, and their predators. HCB has been found in fish and wildlife throughout the U.S., though the Great Lakes and Gulf coast are areas of particularly high contamination.

HCB is a highly persistent environmental toxin that degrades slowly in air and remains in the atmosphere through long range transport. Current research suggests that HCB has a half-life from 2.7 to 6 years in water and in the atmosphere, and may have a half-life of more than 6 years in soil. In water, HCB binds to sediments and suspended matter. In soil, HCB binds strongly and generally does not leach to water. Transport to ground water is slow, but varies with the organic makeup of the soil, as HCB tends to bind more strongly to soils with high organic content. Co-solvents in active/inactive sites can mobilize HCB (The USEPA Persistent, Bioaccumulative and Toxic Pollutants (PBT) HCB Workgroup, November 2000: *Draft PBT National Action Plan For Hexachlorobenzene (HCB) for Public Review*).

Transformer salvage operations ceased at the site in August of 1999. Subsequently the site was leased to various tenants that performed vehicle maintenance and operated a tire shop. The site improvements have not changed since transformer salvage ceased. The site remains unpaved with various improvements. The AST bulk oil storage area WMU has reportedly been closed.

Runoff from the property has the potential to affect surface soils and drainage ditches adjacent to the site. The nearest surface water is located approximately one mile from the site and is not expected to be affected by a release from the site, however sediment along the drainage ditches remain a potential source for future surface water impacts, if left unaddressed.

Table 2A - Water Well Summary

Complete this table if water wells are identified in either the 500-ft receptor survey or the one-half mile records survey. Provide the information available on the water wells identified in the survey radius. Include wells found from the sources of information. Highlight the threatened or affected wells.

Table 2A. Water Well Summary

Well no. / designation	Well owner's name of record	Distance from affected property (ft.)	Screened interval/open interval (ft)	Cemented interval (ft)	Completion type	Total depth	Date drilled	Producing formation	Current water use ¹	Current status ²	Data source ³
Downgradient Wells											
City Well #1, 18-39-701	City Of Leonard	370	1523-1673	Unknown	Under-reamed, gravel packed	1,690	1957	Woodbine	PS	Act	TWDB
Cross-gradient Wells											
Upgradient Wells											

¹ Current water use: Dom - domestic; PS - public supply/municipal; Ind - industrial; Comm - commercial; Irr - irrigation; Liv - livestock

² Current status: Act - active; Ab - abandoned/not in use; SB - standby/backup; P&A - plugged and abandoned

³ Indicate the specific primary source of well information.

Table 2B - Affected Water Well Summary

List the threatened or affected water wells from Table 2A in this table. Provide the owner's name, telephone number, property address, and name of tenant or easement holder. Document the sources of information used to obtain this information in Appendix 16.

Table 2B. Threatened and Affected Water Well Summary

Well number/ designation	Current owner and phone number	Property address and/or legal description ¹	Tenants and/or easement holders ²	Samples collected		Do COC concentrations exceed Tier 1 GW ^{GW} GW ^{Ing} PCLs?	
				Yes	No	Yes	No
None known							

¹ Provide the address of the property containing the threatened or affected well. If the property does not have an address or if property plot maps are provided, include the legal description of the property (i.e., lot and block numbers, appraisal district reference numbers, etc.)

² If samples were collected on property not owned by the person and results exceed Tier 1 PCLs, provide the names of tenants and/or easement holders.

Table 2C - Complete or Reasonably Anticipated to be Complete Exposure Pathways

Use this table to indicate the complete or reasonably anticipated to be complete exposure pathways by checking the applicable pathways based on the media affected by COCs and the potential for migration of COCs. The shaded boxes are those pathways considered complete per the TRRP rule. If a shaded box is not checked, explain in Section 2.6 why the pathway is not complete.

Table 2C. Complete or Reasonably Anticipated to be Complete Exposure Pathways

Exposure pathway	Surface soil ¹	Subsurface soil ²	Groundwater	Surface water/ sediment
TotSoilComb ³	X	NA	NA	NA
AirSoilInh-V	NA			
GWSoilIng or GWSoilClass3	X			
GWGWIng or GWGWClass3	NA	NA	UNKNOWN	
AirGWInh-V			UNKNOWN	
SWG				
SedGW				
SWSW or SedSed			NA	X
Other (specify) ⁴				

Surface soil has not been assessed to the residential 0-15 feet interval. Groundwater has not been assessed.

Attached:

Figure 2A - Potential Receptors Map

Figure 2B - Field Survey Photographs

Figure 2C - Water Well Map

Attachment 2A - Tier 1 Ecological Exclusion Criteria Checklist

Complete this checklist for each affected property. Refer to Chapter 307, Texas Surface Water Quality Standards, *Guidance for Conducting Ecological Risk Assessments at Remediation Sites in Texas* (RG-263 revised, and future updates), and *Determining PCLs for Surface Water and Sediment* (RG-366/TRRP-24) for the definition of surface water, surface water types, uses, basin numbers, and state-designated stream segment numbers. The person and the preparer must sign this checklist.

Not enough information is available to complete this section.

Attachment 2B - Tier 1 Ecological Exclusion Criteria Supporting Documentation

As required in the Tier 1 Ecological Exclusion Criteria Checklist, attach a brief statement (not to exceed 1

¹ Residential: soils from 0-15 feet deep, or to bedrock or groundwater-bearing unit if shallower.

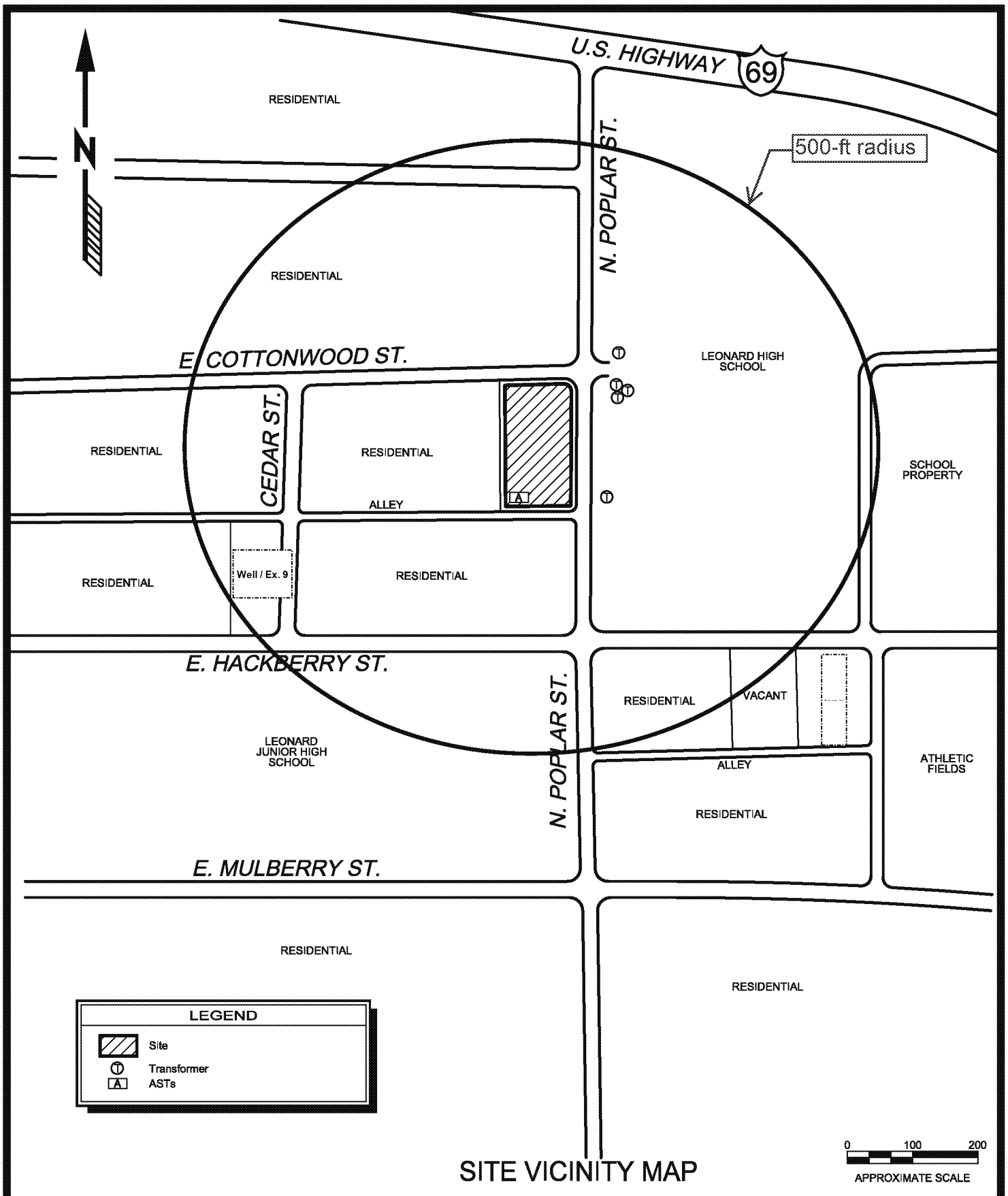
Commercial/industrial: soils from 0-5 feet deep, or to bedrock or groundwater-bearing unit if shallower.

² The vadose zone beneath the surface soil extending to the groundwater-bearing unit, and including unsaturated zones between stratified groundwater-bearing units.

³ Residential: AirSoilInh-VP + SoilSoilIng + SoilSoilDerm + VegSoilIng

Commercial/industrial: AirSoilInh-VP + SoilSoilIng + SoilSoilDerm

⁴ If other exposure pathways are identified here, include those pathways in the derivation of assessment levels and evaluation of critical PCLs.



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DATE:
NOV. 2009

PROJECT NO.:
09724

SCALE:
SEE ABOVE

FIGURE NO.:
2A



Photograph 1: View looking west of the automobile repair shop building. This building was previously used as the transformer recycling facility.



Photograph 2: View looking south of the west property boundary showing the shed (left) and the vacant lot located west of the site.



Photograph 3: View looking southeast of the portable building and of the exterior of the automobile repair shop.



Photograph 4: View looking northwest the three aboveground storage tanks and multiple 55-gallon drums in and near the spill containment sump.



Photograph 5: View looking west showing the northern property line with E. Cottonwood Street and the residential neighborhood beyond.



Photograph 6: View looking north along N. Poplar Street showing the school buildings east of the site. Also note the one transformed on the power pole in the foreground (#N6497) and in the three in the background (Nos. N23508, N21884, and N21888).



Photograph 7: View looking west of the alleyway south of the site with the residences beyond.



Photograph 8: View looking southeast of City Water Well #1 and its storage tanks located approximately 370 feet from the site



Photograph 9: View inside the shop building showing the parts washer and other chemicals.



Photograph 10: View inside the shop building showing 5-gallon buckets of chemicals and oil, both new and used. Numerous areas of stained concrete are visible in the shop.



Photograph 11: View looking southwest of the drums inside and outside the AST secondary containment basin. Note the drain valve and the stains and hydrocarbon sheen on the standing water.



Photograph 12: View looking southeast the kerosene-dispensing AST, drums, and other debris on the north side of the shop building.



Photograph 13: View inside the shop building of equipment, parts, and new and used oil containers and drums.



Photograph 14: View looking northwest of the rainbow hydrocarbon sheen visible on the concrete driveway near the shop building.

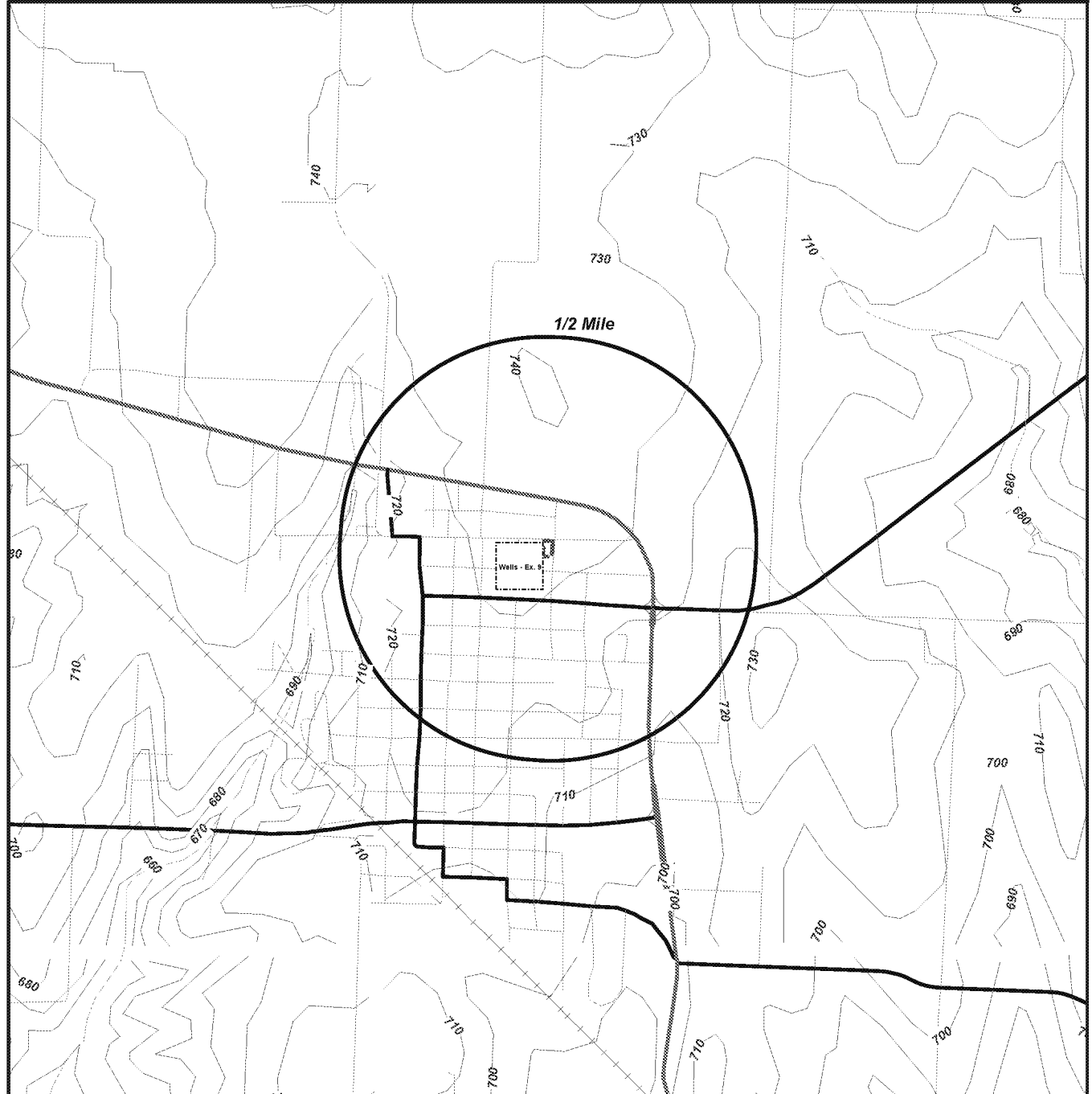


Photograph 15: View inside the shop building showing the leftover transformer from the salvage business. Note the blue "No PCB" sticker on the transformer. This area is where the furnace used for burning the insulation from the transformer was located.



Photograph 16: View looking southwest of the north side of the shop building showing some of the scattered areas of debris and parts.

WATER WELL MAP



Target Property (TP)
 TWDB

Two Lots with Improvements
905 N. Poplar
Leonard, Texas
75452

CONTOUR LINES REPRESENTED IN FEET



0' 1000' 2000' 3000'
 SCALE: 1" = 2000'

GeoSearch

2705 Bee Caves Rd, Suite 330 - Austin, Texas 78746 - phone: 866-396-0042 - fax: 512-472-9967

REPORT SUMMARY OF LOCATABLE SITES

MAP ID#	DATABASE NAME	SITE ID#	DISTANCE FROM SITE	SITE NAME	ADDRESS	CITY, ZIP CODE	PAGE #
1	TWDB	18-39-701	0.090 SW	CITY OF LEONARD			1



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page) summarizing the information provided in Attachment 2A. Include in this summary sufficient information to verify that the affected property meets or does not meet the exclusion criteria. Also include in this attachment photographs and correspondence with wildlife management agencies used to complete the checklist. Include a topographic map and/or aerial photo to depict the affected property and surrounding area.

Not enough information is available to complete this section.

Attachment 2A. Tier 1 Exclusion Criteria Checklist

PART I. Affected Property Identification and Background Information

1) Provide a description of the specific area of the response action and the nature of the release. Include estimated acreage of the affected property and the facility property, and a description of the type of facility and/or operation associated with the affected property. Also describe the location of the affected property with respect to the facility property boundaries and public roadways.

Attach available USGS topographic maps and/or aerial or other affected property photographs to this form to depict the affected property and surrounding area. Indicate attachments:

☐ Topo map ☐ Aerial photo ☐ Other (specify) _____

2) Identify environmental media known or suspected to contain chemicals of concern (COCs) at the present time. Check all that apply:

Known/Suspected COC Location	Based on sampling data?	
<input type="checkbox"/> Soil <5 ft below ground surface	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Soil >5 ft below ground surface	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Groundwater	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Surface Water/Sediments	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Explain (previously submitted information may be referenced):

3) Provide the information below for the nearest surface water body which has become or has the potential to become impacted from migrating COCs via surface water runoff, air deposition, groundwater seepage, etc. Exclude wastewater treatment facilities and stormwater conveyances/impoundments authorized by permit. Also exclude conveyances, decorative ponds, and those portions of process facilities that are:

- Not in contact with surface waters in the State or other surface waters which are ultimately in contact with surface waters in the State; and
- Not consistently or routinely utilized as valuable habitat for natural communities including birds, mammals, reptiles, etc.

The nearest surface water body is _____ feet/miles from the affected property and is named:

The water body is best described as a:

- ☐ freshwater stream:
- ☐ perennial (has water all year)
 - ☐ intermittent (dries up completely for at least 1 week a year)
 - ☐ intermittent with perennial pools
 - ☐ freshwater swamp/marsh/wetland
 - ☐ saltwater or brackish marsh/swamp/wetland
 - ☐ reservoir, lake, or pond; approximate surface acres _____
 - ☐ drainage ditch
 - ☐ tidal stream ☐ bay ☐ estuary
 - ☐ other; specify _____

Is the water body listed as a State classified segment in Appendix C of the current Texas Surface Water Quality Standards; §§307.1 - 307.10?

☐ Yes Segment # _____ Use Classification: _____
☐ No

If the water body is not a State classified segment, identify the first downstream classified segment.

Name: _____

Segment #: _____

Use Classification: _____

As necessary, provide further description of surface waters in the vicinity of the affected property:

PART II. Exclusion Criteria and Supportive Information

Subpart A. Surface Water/Sediment Exposure

1) Regarding the affected property where a response action is being pursued under the TRRP, have COCs migrated and resulted in a release or imminent threat of release to either surface waters or to their associated sediments via surface water runoff, air deposition, groundwater seepage, etc.? Exclude wastewater treatment facilities and stormwater conveyances/impoundments authorized by permit. Also exclude conveyances, decorative ponds, and those portions of process facilities which are:

- a. Not in contact with surface waters in the State or other surface waters which are ultimately in contact with surface waters in the State; and
- b. Not consistently or routinely utilized as valuable habitat for natural communities including birds, mammals, reptiles, etc.

☐ Yes ☐ No

Explain:

If the answer is yes to Subpart A above, the affected property does not meet the exclusion criteria. However, complete the remainder of Part II to determine if there is a complete and/or significant soil exposure pathway, then complete PART III - Qualitative Summary and Certification. If the answer is No, go to Subpart B.

Subpart B. Affected Property Setting

In answering “Yes” to the following question, it is understood that the affected property is not attractive to wildlife or livestock, including threatened or endangered species (i.e., the affected property does not serve as valuable habitat, foraging area, or refuge for ecological communities). (May require consultation with wildlife management agencies.)

- 1) Is the affected property wholly contained within contiguous land characterized by: pavement, buildings, landscaped area, functioning cap, roadways, equipment storage area, manufacturing or process area, other surface cover or structure, or otherwise disturbed ground?

_____ Yes _____ No

Explain:

--

If the answer to Subpart B above is Yes, the affected property meets the exclusion criteria, assuming the answer to Subpart A was No. Skip Subparts C and D and complete PART III - Qualitative Summary and Certification. If the answer to Subpart B above is No, go to Subpart C.

Subpart C. Soil Exposure

- 1) Are COCs which are in the soil of the affected property solely below the first 5 feet beneath ground surface **or** does the affected property have a physical barrier present to prevent exposure of receptors to COCs in surface soil?

_____ Yes _____ No

Explain:

--

If the answer to Subpart C above is Yes, the affected property meets the exclusion criteria, assuming the answer to Subpart A was No. Skip Subpart D and complete PART III - Qualitative Summary and Certification. If the answer to Subpart C above is No, proceed to Subpart D.

Subpart D. *De Minimis* Land Area

In answering “Yes” to the question below, it is understood that all of the following conditions apply:

- The affected property is not known to serve as habitat, foraging area, or refuge to threatened/endangered or otherwise protected species. (Will likely require consultation with wildlife management agencies.)
- Similar but unimpacted habitat exists within a half-mile radius.
- The affected property is not known to be located within one-quarter mile of sensitive environmental areas (e.g., rookeries, wildlife management areas, preserves). (Will likely require consultation with wildlife management agencies.)
- There is no reason to suspect that the COCs associated with the affected property will migrate such that the affected property will become larger than one acre.

- 1) Using human health protective concentration levels as a basis to determine the extent of the COCs, does the affected property consist of one acre or less and does it meet all of the conditions above?

_____ Yes _____ No

Explain how conditions are met/not met:

If the answer to Subpart D above is Yes, then no further ecological evaluation is needed at this affected property, assuming the answer to Subpart A was No. Complete PART III - Qualitative Summary and Certification. If the answer to Subpart D above is No, proceed to Tier 2 or 3 or comparable ERA.

PART III. Qualitative Summary and Certification (complete in all cases.)

Attach a brief statement (not to exceed 1 page) summarizing the information you have provided in this form. This summary should include sufficient information to verify that the affected property meets or does not meet the exclusion criteria. The person should make the initial decision regarding the need for further ecological evaluation (i.e., Tier 2 or 3) based upon the results of this checklist. After review, TCEQ will make a final determination on the need for further assessment. **Note that the person has the continuing obligation to re-enter the ERA process if changing circumstances result in the affected property not meeting the Tier 1 exclusion criteria.**

Completed by _____ (Typed/Printed Name)
_____ (Title)
_____ (Date)

I believe that the information submitted is true, accurate, and complete, to the best of my knowledge.

_____ (Typed/Printed Name of Person)
_____ (Title of Person)
_____ (Signature of Person)
_____ (Date Signed)

Section 3 Assessment Strategy

Use this section to discuss the rationale for the assessment and identify remaining data gaps.

Section 3.1 General Assessment Issues

Environmental Media Assessed

All information provided in this APAR are based on the sampling performed by EPA and TCEQ in the 1990s and on site reconnaissance conducted by Mr. Charles R. Robertson of Terra-Solve, Inc., on November 20, 2009, as part of a Phase I Environmental Site Assessment.

Only soil samples were collected during the 1990s assessment conducted by EPA and TCEQ. As mentioned previously, the complete reports of these activities has been lost and are not available from EPA or TCEQ files. No groundwater assessment has been performed.

Target COCs

As outlined in a meeting with EPA, TCEQ, Terra-Solve, the attorney representing Leonard ISD, and the owner, the following chemicals of concern (COCs) were identified that exceed the current (November 2014) TCEQ Tier I Residential 0.5-acre source area PCLs:

- Polychlorinatedbiphenyls (PCBs);
- Hexachlorobenzene (HCB); and
- Copper.

Also in the meeting it was noted that TCEQ also will require samples to assess impacts to sediment and groundwater. A copy of the letter summarizing the meeting is attached. The TCEQ response letter dated June 18, 2010, outlining the additional requirements is also attached.

Background

Three background metals samples were collected from unaffected areas, upgradient and upwind from the site. The results are given in Table 4D.

Section 3.2 Assessment Strategy

General Assessment Approach

No information is available on the sampling methods, etc. used by EPA and TCEQ, however, TCEQ has agreed that the sample results obtained from the EPA and TCEQ files are acceptable for use in evaluating the site conditions. Refer to the above-mentioned letter summarizing the meeting with all parties.

Assessment Methods

No information is available on the sampling methods, etc. used by EPA and TCEQ, however, TCEQ has agreed that the sample results obtained from the EPA and TCEQ files are acceptable for use in evaluating the site conditions. Refer to the above-mentioned letter summarizing the meeting with all parties.

Table 3A - Underground Utilities

No assessment of underground utilities has been performed. No sanitary sewer service to the site exists, but it is available from the City of Leonard. Potable water to the site is provided by the City of Leonard. Electricity to the site is provided by Texas New Mexico Power Company. Natural gas service to the site is provided by Atmos Energy.

Table 3A. Underground Utilities

Utility type	Construction material	Backfill material	Approx. depth (ft)	Utility company name	Potential migration pathway?		Affected?	
					Yes	No	Yes	No
Water	Unknown	Unknown	?	City of Leonard	X		Unknown	
Electricity	Unknown	Unknown	?	Texas New Mexico Power Company		X	Unknown	
Natural Gas	Unknown	Unknown	?	Atmos Energy	X		Unknown	

Section 4 Soil Assessment

Use this section to discuss the results of the surface and subsurface soil assessment and the nature and extent of NAPL and COCs in soil. For this discussion, the term soil includes the vadose zones, capillary fringe, and saturated zones that are not groundwater-bearing units. Refer to *Affected Property Assessment Requirements* (RG-366/TRRP-12) for guidance on assessment levels and *NAPL Assessment* (RG-366/TRRP-12A) for information on determining the nature and extent of NAPL.

Section 4.1 Derivation of Assessment Levels

The proposed use of the site as a parking lot for the Leonard ISD constitutes a residential use. The surrounding properties within a 500-foot radius of the site are residential use, therefore the proposed assessment level is the TCEQ November 2014 Tier I Residential 0.5-acre source PCLs.

Section 4.2 Nature and Extent of COCs and NAPL in Soil

The previous soil samples collected by EPA and TCEQ in the early 1990s identified PCBs, copper, and hexachlorobenzene in excess of the current Tier I Residential 0.5-acre source area PCLs. These levels were identified on the site, on the residential vacant lot to the west, in the alley, and on residential properties to the south of the site.

A groundwater assessment has not been performed.

Table 4A - Surface Soil Residential Assessment Levels with no Ecological Component

Use this table to summarize the residential assessment level for each COC analyzed in surface soils in areas where human health PCLs apply and to compare the residential assessment level to the higher of the maximum COC concentration or the maximum SQL to determine if the residential assessment level has been exceeded. For each COC, highlight the value that is the residential assessment level and highlight the maximum concentration if it exceeds the residential assessment level. Add columns as necessary to include applicable exposure pathways. If a Tier 2 or Tier 3 ^{GW}Soil PCL was used as the residential assessment level, include supporting documentation in Appendix 9.

Table 4A. Surface Soil Residential Assessment Levels for Human Health Exposure Pathways

COC	Source area size (acres)	TotSoilComb PCL (mg/kg)	GWSoil PCL		MQL (mg/kg)	Back-ground (mg/kg)	Maximum concentration			
			(mg/kg)	Tier			Sample ID	Sample depth	Sample date	Conc (mg/kg)
PCBs (On Site)	0.344	1.1	11	I		NA	SO-18, N. of ASTs	0.5'-1.0'	1990s	2,300
PCBs (Off Site)	0.344	1.1	11	I		NA	SO-14, alley adj. to transformer storage area	0.5'-1.0'	1990s	4,100
HCB (On Site)	0.344	1.1	1.1	I		NA	SO-18, N. of ASTs	0.5-1.0'	1990s	15,000
HCB (Off Site)	0.344	1.1	1.1	I		NA	NA	NA	NA	NA
Cu (On Site)	0.344	1,300	1,000	I		NA	SO-17, transformer off-load area	0.5-1.0'	1990s	279
Cu (Off Site)	0.344	1,300	1,000	I		NA	SO-14, alley s. of site	0.5-1.0'	1990s	1,860
PCBs (Drainage Ditch)	0.344	1.1	11	I		NA	SO-9, (drainage ditch NWC Poplar and Hackberry Streets)	Grab	1990s	3.00
Cu (Drainage Ditch)	0.344	1,300	1,000	I		NA	SO-9, (drainage ditch NWC Poplar and Hackberry Streets)	Grab,	1990s	105
Cu (upgradient)	NA	1,300	1,000			11.6	SO-1, Unaffected area		1990s	NA
Cu (upgradient)	NA	1,300	1,000			20.6	SO-2, Unaffected area		1990s	NA
Cu (upgradient)	NA	1,300	1,000			20.0	SO-3, Unaffected area		1990s	NA

Table 4B - Surface Soil Residential Assessment Levels with Ecological Component

Use this table to summarize the residential assessment level for each COC analyzed in surface soils in areas where human health and ecological concerns apply and to compare the residential assessment level to the maximum COC concentration to determine if the residential assessment level has been exceeded. If a PCL has not been developed under an ecological risk assessment, provide the basis for the value used. Complete this table for each COC analyzed. For each COC, highlight the value that is the residential assessment level and highlight the maximum concentration if it exceeds the assessment level.

Table 4B. Surface Soil Residential Assessment Levels with Ecological Component

COC	Human health PCL ¹ (mg/kg)	Ecological PCL (0 to 0.5 ft)		Ecological PCL (0.5 to 5 ft)		MQL (mg/kg)	Back-ground (mg/kg)	Maximum concentration in areas of ecological concern			
		(mg/kg)	Basis ²	(mg/kg)	Basis ²			Sample ID	Sample depth	Sample date	Conc (mg/kg)

¹ List the lower of ^{Tot}Soil_{Comb} and ^{GW}Soil values from Table 4A.

² Specify the basis of the ecological PCL (benchmark, MQL, background, Tier 2 PCL, or Tier 3 PCL).

TABLE 4D: SOIL DATA SUMMARY
Samples Collected on 07/12/95 (R, A, D, F); 01/13-14/98 (SO)

Sample	Sample Interval	Description	PCBs	VOCS	SVOCs								
R01	6"	Personal Address / Ex. 6	27.9	---	---	---	---	---	---	---	---	---	---
	12"	14' N & 3.5' E of House	ND	---	---	---	---	---	---	---	---	---	---
R02	6"	Personal Address / Ex. 6	3.75	---	---	---	---	---	---	---	---	---	---
	12"	14' N of House, 22' W of R01	ND	---	---	---	---	---	---	---	---	---	---
R03	6"	Personal Address / Ex. 6	4.07	---	---	---	---	---	---	---	---	---	---
	12"	14' N of House, 22' W of R02	ND	---	---	---	---	---	---	---	---	---	---
R04	6"	Personal Address / Ex. 6	3.62	---	---	---	---	---	---	---	---	---	---
	12"	7' N & 3.5' E of House	ND	---	---	---	---	---	---	---	---	---	---
R05	6"	Personal Address / Ex. 6	1.12	---	---	---	---	---	---	---	---	---	---
	12"	7' N of House, 22' W of R04	ND	---	---	---	---	---	---	---	---	---	---
R06	6"	Personal Address / Ex. 6	ND	---	---	---	---	---	---	---	---	---	---
	12"	7' N of House, 22' W of R05	ND	---	---	---	---	---	---	---	---	---	---
R07	6"	Doyle Residence, 7' W Of Facility, 19' N of E Garage	10.40	---	---	---	---	---	---	---	---	---	---
	12"		2.19/ND	---	---	---	---	---	---	---	---	---	---
R08	6"	Doyle Residence, 7' W Of Facility, 43' N of E Garage	6.97	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
R09	6"	Doyle Residence, 24' W Of Facility, 31' N of E Garage	2.00	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
R10	6"	Personal Address / Ex. 6	ND	---	---	---	---	---	---	---	---	---	---
	12"	25' E House, 7' S N End House	ND	---	---	---	---	---	---	---	---	---	---
R11	6"	Personal Address / Ex. 6	13.60	---	---	---	---	---	---	---	---	---	---
	12"	20' E of R01, 20' N of R10	ND	---	---	---	---	---	---	---	---	---	---
TRRP Tier 1 PCLs					Various	5.0	440	1.5	2,400	3.0	0.0078	2.3	0.48

Results listed in mg/kg (parts per million; ppm) with reporting limits shown on the laboratory reports.

¹ Defined by TRRP Table 1, Residential Soils, June 2012 tables. TPH levels are Residential screening levels.

² No lab reports are available from the EPA and TCEQ files, therefore the detection limits cannot be stated.

BRL: Below Reporting Limits.

---: Not Analyzed for this compound.

N/A: Not Applicable.

Boldface denotes a concentration greater than TRRP Tier 1 PCLs.

TABLE 4D: SOIL DATA SUMMARY:

Sample	Sample Interval	Description	PCBs	VOCs	SVOCs	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
A01	6"	Alley, 12.K' W of Facility East Fence	5.70	---	---	---	---	---	---	---	---	---	---
	12"		74.60	---	---	---	---	---	---	---	---	---	
	18"		48.20	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
A02	6"	Alley, 25' W of A01	1.57	---	---	---	---	---	---	---	---	---	---
	12"		852.00	---	---	---	---	---	---	---	---	---	
	18"		22.00	---	---	---	---	---	---	---	---	---	
	24"		115.00 / 32.60	---	---	---	---	---	---	---	---	---	
A03	6"	Alley, 25' W of A02	ND	---	---	---	---	---	---	---	---	---	---
	12"		59.00	---	---	---	---	---	---	---	---	---	
	18"		ND	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
A04	6"	Alley, 25' W of A03	ND	---	---	---	---	---	---	---	---	---	---
	12"		8.54	---	---	---	---	---	---	---	---	---	
	18"		ND	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
A05	6"	Alley, 25' W of A04	2.31	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
	18"		ND	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
A06	6"	Alley, 25' W of A05	ND	---	---	---	---	---	---	---	---	---	---
	12"		7.35	---	---	---	---	---	---	---	---	---	
	18"		ND	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
TRRP Tier 1 PCLs					Various	5.0	440	1.5	2,400	3.0	0.0078	2.3	0.48

Results listed in mg/kg (parts per million; ppm) with reporting limits shown on the laboratory reports.

¹ Defined by TRRP Table 1, Residential Soils, June 2012 tables. TPH levels are Residential screening levels.

² No lab reports are available from the EPA and TCEQ files, therefore the detection limits cannot be stated.

BRL: Below Reporting Limits.

---: Not Analyzed for this compound.

N/A: Not Applicable.

Boldface denotes a concentration greater than TRRP Tier 1 PCLs.

TABLE 4D: SOIL DATA SUMMARY:

Sample	Sample Interval	Description	PCBs	VOCs	SVOCs	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
D01	6"	Day Care, 2' S of N Fence 9' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
D02	6"	Day Care, 2' S of N Fence 29' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
D03	6"	Day Care, 2' S of N Fence 49' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
D04	6"	Day Care, 15' S of N Fence 9' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
D05	6"	Day Care, 15' S of N Fence 29' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
D06	6"	Day Care, 15' S of N Fence 49' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
F01	6"	Outside Facility, 6' E of E Fence, 15' N of S Fence	2.98	---	---	---	---	---	---	---	---	---	---
	12"		14.00	---	---	---	---	---	---	---	---	---	
	18"		4.81	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
TRRP Tier 1 PCLs					Various	5.0	440	1.5	2,400	3.0	0.0078	2.3	0.48

Results listed in mg/kg (parts per million; ppm) with reporting limits shown on the laboratory reports.

¹ Defined by TRRP Table 1, Residential Soils, June 2012 tables. TPH levels are Residential screening levels.

² No lab reports are available from the EPA and TCEQ files, therefore the detection limits cannot be stated.

BRL: Below Reporting Limits.

---: Not Analyzed for this compound.

N/A: Not Applicable.

Boldface denotes a concentration greater than TRRP Tier 1 PCLs.

TABLE 4D: SOIL DATA SUMMARY:

Sample	Sample Interval	Description	PCBs	Hexa-chloro-benzene	VOCs		SVOCs	Cadmium	Copper	Lead	Cyanide		
SO-01		BACKGROUND	ND					ND	11.6				
SO-02		BACKGROUND	0.033					0.41	20.6				
SO-03		BACKGROUND	0.340					ND	20.0				
SO-04		N of HIGH SCHOOL											
SO-05		W of HIGH SCHOOL											
SO-06		S of HIGH SCHOOL											
SO-07		HACKBERRY ST DITCH						0.45	98.4	30.6	0.22		
SO-08		POPLAR ST DITCH						0.75	42.7	107	0.33		
SO-09		CULVERT AT HACKBERRY ST						0.42	105	59.7	0.35		
SO-10		DUPLICATE of SO-09						0.48	115	62.2	0.80		
SO-11		Personal Address / Ex. 6						1.1	1,580	73.5	0.22		
SO-12		DAY CARE YARD											
SO-13		ALLEY W. LOCATION						0.85	1,760	76.5	0.23		
SO-14		ALLEY E. LOCATION						0.77	1,860	70.0	0.29		
SO-15		SO-14 DUPLICATE						1.3	1,390	57.6	0.25		
SO-16		DOYLE YARD						0.39	1,100	35.2	0.18		
SO-17		SITE OFF-LOAD AREA	0.160	ND					279				
SO-18		SITE CONTAINER STORAGE	1,400	15					204				
SO-19		SITE TRANSFORM. STORAGE	1.70	ND					30.9				
TRRP Tier 1 PCLs					Various	5.0	440	1.5	2,400	3.0	0.0078	2.3	0.48

Results listed in mg/kg (parts per million; ppm) with reporting limits shown on the laboratory reports.

¹ Defined by TRRP Table 1, Residential Soils, June 2012 tables. TPH levels are Residential screening levels.

² No lab reports are available from the EPA and TCEQ files, therefore the detection limits cannot be stated.

BRL: Below Reporting Limits.

---: Not Analyzed for this compound.

N/A: Not Applicable.

Boldface denotes a concentration greater than TRRP Tier 1 PCLs.

Table 4C - Subsurface Soil Residential Assessment Levels

The purpose of this table is to illustrate the residential assessment levels for each COC analyzed in subsurface soils and to compare the residential assessment level to the maximum COC concentration to determine if the residential assessment level has been exceeded. Complete this table for each target COC. Highlight the value that is the residential assessment level for each COC and highlight the maximum concentration if it exceeds the assessment level. Add columns as necessary to include other applicable exposure pathways. If a Tier 2 or Tier 3 ^{GW}Soil PCL was used as the residential assessment level, include supporting documentation in Appendix 9.

No residential subsurface (greater than 15 feet below ground surface), assessment has been performed.

Table 4C. Subsurface Soil Residential Assessment Levels

COC	Source area size (acres)	^{Air} Soil _{inh-v} PCL (mg/kg)	^{GW} Soil PCL		ML	Back-ground	Maximum concentration			
			(mg/kg)	Tier	(mg/kg)	(mg/kg)	Sample ID	Sample depth	Sample date	Conc (mg/kg)

Table 4D - Soil Data Summary

A summary of the soil data from the previous EPA and TCEQ assessments is included.

Table 4E - Soil Geochemical/Geotechnical Data Summary

Provide summary tables of geochemical or geotechnical analyses results. Include in the tables the sample ID number, boring number, sample date, sample depth, parameter analyzed, analytical method, and analytical result. Include data qualifiers and identify the data qualifiers. Report non-detected results as less than the SQL, where applicable.

NA

Figure 4A - Surface Soil COC Concentration Maps

The two maps included were constructed using the EPA and TCEQ data.

Figure 4B - Subsurface Soil COC Concentration Maps

No residential subsurface (greater than 15 feet below ground surface), assessment has been performed.

Figure 4C - Cross Sections

No information is available from the previous assessments performed by the EPA and TCEQ.
--

Section 5 Groundwater Assessment

No groundwater assessment has been performed.

Section 5.1 Derivation of Assessment Levels

No groundwater assessment has been performed.

Section 5.2 Nature and Extent of COCs and NAPL in Groundwater

No groundwater assessment has been performed.

Table 5A - Groundwater Residential Assessment Levels

No groundwater assessment has been performed.

Table 5A. Groundwater Residential Assessment Levels

COC	GW _{Ing} or GW _{Class3} (mg/L)	AirGW _{Inh-V}		SWGW ¹ (mg/L)	SedGW ¹ (mg/L)	MQL (mg/L)	Back- ground (mg/L)	Maximum concentration			
		(mg/L)	Source area size (acres)					Sample ID	Sample depth (ft)	Sample date	Conc (mg/L)

Table 5B - Groundwater Data Summary

No groundwater assessment has been performed.

Table 5C - Groundwater Geochemical Data Summary

No groundwater assessment has been performed.

Table 5D - Groundwater Measurements

No groundwater assessment has been performed.

Figure 5A - Groundwater Gradient Map

No groundwater assessment has been performed.

Figure 5B - Groundwater COC Concentration Maps

No groundwater assessment has been performed.

Figure 5C - Groundwater Geochemistry Maps

No groundwater assessment has been performed.

Figure 5D - Cross Section Groundwater-to-Surface Water Pathway

No groundwater assessment has been performed.

¹ PCLs for these pathways are not applicable to all sites. Refer to *Determining PCLs for Surface Water and Sediment* (RG-366/TRRP-24) to determine when to calculate a PCL for this pathway.

Section 6 Surface Water Assessment and Critical PCL Development

No surface water assessment has been performed.

Section 6.1 Type of Surface Water and Applicable Water Quality Criteria

No surface water assessment has been performed.

Section 6.2 Surface Water Risk-Based Exposure Levels (RBELs) for Human Health and Aquatic Life Protection

No surface water assessment has been performed.

Section 6.3 Nature and Extent of COCs in Surface Water

No surface water assessment has been performed.

Section 6.4 Critical PCL for Surface Water

No surface water assessment has been performed.

Table 6A - Surface Water Critical PCLs

No surface water assessment has been performed.

Table 6A. Surface Water Critical PCLs

COC	Background (mg/L)	MQL (mg/L)	Human Health ¹ (^{SW} SW _{HH})				Aquatic Life and Ecological ² (^{SW} SW _{eco})			^{SW} SW petroleum fuel discharges ³ (mg/L)	Conc (mg/L)	
					Contact recreation		Acute (mg/L)	Chronic (mg/L)	Wildlife receptors (mg/L)		Max	Rep ⁴
			Water and fish (mg/L)	Fish only (mg/L)	Incidental ingestion (mg/L)	Dermal contact (mg/L)						

¹ ^{SW}SW_{HH} – Surface water PCL protective of human health.

² ^{SW}SW_{eco} – Surface water PCL protective of aquatic life and wildlife ecological receptors. If a PCL was not developed under an ecological risk assessment, provide the value used (benchmark, MQL, background, or human health PCL), as appropriate.

³ ^{SW}SW – Surface water PCL for discharge of petroleum fuel contaminated water. See Section 3.4 of *Determining PCLs for Surface Water and Sediment* (RG-366/TRRP-24).

⁴ Document the development of representative concentrations in Appendix 8.

Table 6B - Surface Water Data Summary

No surface water assessment has been performed.

Figure 6A - Surface Water PCLE Zone Map

No surface water assessment has been performed.

Figure 6B - Photographs

No surface water assessment has been performed.

Section 7 Sediment Assessment and Critical PCL Development

Complete this section for sediment threatened, affected, and/or sampled, or if the groundwater-to-sediment pathway is complete or reasonably anticipated to be complete. The purpose of this section is to describe and provide sufficient documentation to support the sediment RBELs for human health and the critical PCLs for sediment based on human and ecological receptors. Refer to *Determining PCLs for Surface Water and Sediment* (RG-366/TRRP-24) for guidance.

Section 7.1 Type of Sediment and Applicable Criteria

No sediment assessment has been performed.

Section 7.2 Sediment Risk-based Exposure Levels (RBELs) for Human Health

No sediment assessment has been performed.

Section 7.3 Nature and Extent of COCs in Sediment

No sediment assessment has been performed.

Section 7.4 Critical PCL for Sediment

No sediment assessment has been performed.

Section 8 Air Assessment and Critical PCL Development

Section 8.1 Risk-Based Exposure Levels

No air assessment has been performed.

Section 8.2 Nature and Extent of COCs in Air

No air assessment has been performed.

Table 8A - Outdoor Air Data Summary

No air assessment has been performed.

Section 9 Ecological Risk Assessment

No ecological assessment has been performed.

Reasoned Justification

No ecological assessment has been performed.

Expedited Stream Evaluation

No ecological assessment has been performed.

Tier 2 Screening Level Ecological Risk Assessment (SLERA)

No ecological assessment has been performed.

Tier 3 Site-Specific Ecological Risk Assessment (SSERA)

No ecological assessment has been performed.

Proposal for Ecological Services Analysis

No ecological assessment has been performed.

Section 10 COC Screening

NA

Section 10.1 Frequency of Detection

NA.

Section 10.2 Lab Contaminant or Blank Contaminant

NA.

Section 10.3 COC Not Sourced On-Site

NA.

Section 10.4 Appropriate Sample Quantitation Limits

NA.

Section 10.5 Screened COCs Expected to be Present Dropped from Future Sampling

NA.

Table 10A - COC Screening Summary Table

NA.

Table 10A. COC Screening Summary Table (NA)

1	2	3	4	5	6	7	8	SQL Justifications	
								9	10
COC	All detected concentrations and SQLs < residential assessment level in all sampled media §350.71(k)(1)	COC not detected in any sample in the medium §350.71(k)(3)	Frequency of detects <5% of the ≥20 samples in this medium ¹ §350.71(k)(2)(A)(i) through (iii)	Common lab contaminant ² §350.71(k)(2)(B)	Blank contaminant ² §350.71(k)(2)(C)	Max conc < background §350.71(k)(2)(D)	COC not sourced on-site ³ §350.71(k)(2)(E)	All SQLs < RAL §350.71(k)(3)(A)	SQL > RAL but justified ⁴ §350.71(k)(3)(B)

¹ Provide in the text justification that a critical PCL is not warranted based on the criteria specified in §350.71(k)(2)(A)(iii).

² Provide in the text justification that the COC is not anticipated to be present at the site (see §350.71(k)(2)(B) or (C)).

³ Provide in the text justification that the COC is not from an on-site source (see §350.71(k)(2)(E)).

⁴ Provide in the text justification that all requirements of §350.71(k)(3)(B) are met.

Section 11 Soil Critical PCL Development

NA. Using Tier I Residential, 0.5-acre source PCLs.

Section 11.1 Tier 2 or 3 PCL Development and Non-Default Parameters

Tier 2 and 3 Development

NA.

Non-Default Affected Property Parameters

NA.

Section 11.2 Soil PCL Adjustments

NA.

Section 11.3 Soil Critical PCLs

NA.

Section 12 Groundwater Critical PCL Development

NA, no groundwater assessment has been performed.

Section 12.1 Tier 2 or 3 PCL Development and Non-Default Parameters

Tier 2 and 3 Development

NA.

Non-Default Affected Property Parameters

NA.

Groundwater to Surface Water Dilution Factors

NA.

Section 12.2 Groundwater PCL Adjustments

NA.

Section 12.3 Groundwater Critical PCLs

NA.

Section 13 Notifications

The purpose of this section is to describe the notifications that have been completed or will be completed under §350.55. Refer to *Notification Requirements* (RG-366/TRRP-17) for guidance on the conditions that require notice.

Section 13.1 Notification of Actual or Probable Exposure

Unknown if notifications have been made by EPA or TCEQ, based on their previous investigations.

Section 13.2 Other Notifications

Unknown.

Table 13A - Notification Summary

Use this table to identify the real properties for which notification is required. Assign each real property an ID that is then used on Figure 13A to distinguish property locations. In the Reason for Notification column, specify if notification was required for an actual or probable exposure or another situation that prompted notification. If actual or probable exposure necessitates the notification of tenants/lessees or other persons related to the property usage, provide a list of the persons, their mailing addresses, and telephone numbers with Table 13A and identify the property which with they are associated.

Table 13A. Notification Summary

Property ID	Property owner name	Physical property address, city, zip	Property owner mailing address, city, state, zip	Property owner phone no.	Contact name, mailing address, city, state, zip (if different from owner)	Reason for notification

Figure 13A - Notification Map

Include a large-scale map that illustrates the locations of the properties, including rights of way and easements, that require notification. Label each property with the property ID assigned in Table 13A. Illustrate the legal property boundary and the relevant affected property boundary as defined by the assessment levels. To eliminate this figure, this information may be presented in Figure 1A or 1B if the scale is appropriate.

Appendices

Appendix 1 Notifications (NA)

Provide copies of notification to affected landowner(s) or other entities requiring notification. Document that the required notices have been completed by providing a notarized statement of such fact including the names and addresses of persons receiving direct notice, such as mail, personal contact, public meeting, fliers, etc. Refer to *Notification Requirements* (RG-366/TRRP-17) for guidance.

Appendix 2 Boring Logs and Monitor Well Completion Details (NA)

For each boring drilled or monitor well installed during the assessment, provide a soil boring log with monitor well completion details if applicable. Include in the boring log:

- elevation of ground surface referenced to mean sea level,
- soil description and classification,
- moisture content,
- depth at which groundwater was encountered while drilling,
- visual confirmation of NAPL, such as staining,
- identification of groundwater-bearing units and saturated zones,
- field-screening results and field-screening sample locations,
- sample locations submitted for laboratory analyses,
- depth markings,
- sample type (Shelby tube, split spoon, etc.),
- boring diameter,
- date drilled,
- name of the person who logged the well, and
- drilling method.

Include in the monitor well completion details:

- elevation of top and bottom of casing referenced to mean sea level,
- static water level and date measured (referenced from both depth below ground surface and mean sea level),
- screened interval and slot size,
- casing interval and diameter,
- sand pack grain size and interval,
- date(s) of installation,
- cement and grout interval.

If the assessment was conducted solely by excavation, indicate such and provide lithologic descriptions and the other information requested to the extent appropriate.

Appendix 3 Monitor Well Development and Purging Data (NA)

Submit monitor well development and purging data in a table or provide in photocopies of field notes that specify water quality stabilization parameters, turbidity measurements, water-level measurements while purging, flow rates, and the other parameters measured during well development and purging.

Appendix 4 Registration and Institutional Controls(NA)

Include in this appendix copies of the Industrial and Solid Waste Notice of Registration (NOR), MSD documentation (a copy of the ordinance, deed restriction, and a copy of the MSD certificate and a map that illustrates the boundary of the MSD and the affected property), and/or existing institutional controls restricting well installation or other uses of the property.

Appendix 5 Water Well Records

Include a copy of the State Well Report and companion documents (water quality analysis, undesirable water reports, etc) completed by the driller for each water well identified in the receptor surveys. Also include in this appendix other documentation on the water wells, including information from state agency databases and records, published reports (particularly those by the Texas Water Development Board and Bureau of Economic Geology), records from groundwater conservation districts or subsidence districts, and records from other entities with information on the water well(s). Document the presence or absence of water wells and the primary sources of information researched to come to this conclusion.

Appendix 6 Monitor Well Records (NA)

Provide a copy of the State Well Report completed by the driller for each installed monitor well. For information on completing State Well Reports, contact the Texas Department of Licensing and Regulation at 800-803-9202 or 512-463-6599 or <http://www.tdlr.state.tx.us>.

Appendix 7 Aquifer Testing Data (NA)

For the aquifer tests performed on each groundwater-bearing unit, provide a narrative description of the work performed and the conclusions drawn. Identify the monitor wells used and provide an analysis of the field data, governing equations, sample calculations, assumptions, limitations in the collection of data, and justification for choosing the test method based on the site conditions. Provide a table of field measurements and input parameters such as transmissivity, hydraulic conductivity, storage coefficient of the aquifer, optimum sustainable groundwater pumping rate, and groundwater capture zone/radius of influence. Also provide a graph of well plots showing time of drawdown/buildup (or recovery for a slug test). Refer to the appropriate figure(s) which illustrate the locations of wells utilized.

Appendix 8 Statistics Data Tables and Calculations (NA)

Use this appendix to document data and statistical calculations used to determine site-specific background or representative concentrations of COCs in the following situations:

1. for calculating the site-specific background value, used as the residential assessment level or the critical PCL, for direct comparison to the individual samples from the assessed environmental medium data, as provided in §350.51(l) and §350.79(1);
2. for calculating a representative concentration (the upper confidence limit (UCL)) from the sample data from the environmental medium within an exposure area for statistical comparison to the critical PCL, or an alternative statistical method which meets the performance criteria required in §350.79(2)(A); or
3. for statistically comparing the environmental medium data set within an exposure area to the site-specific background data set, meeting the performance criteria required in §350.79(2)(B).

When applicable, include a map of exposure areas and provide justification for the placement and size of the exposure areas. Provide full documentation of the statistical comparisons including, but not limited to, the name and description of the statistical method(s) used and a list of statistical parameters and assumptions. Provide tables that, at a minimum, contain the following for each media: COC or parameter type, concentration, sample depth or interval, total number of samples used in the statistical calculation, and the statistical value calculated. Non-detect analytical results should be assigned a proxy value in accordance with §350.51(n). Either provide a map illustrating the sample locations used in the statistical calculations, or reference the appropriate figure in this report in which those samples have been specifically denoted.

Appendix 9 Development of Non-Default RBELs and PCLs (NA)

Include in this appendix the equations, calculations, detailed explanations beyond that provided in other sections, justification, input parameters, results, and supporting documentation associated with the development of non-default RBELs and Tier 2 and 3 PCLs. Refer to *Tiered Development of Human Health PCLs* (RG-366/TRRP-22). Also include in this appendix the information on development of TPH PCLs (refer to *Development of Human Health PCLs for Total Petroleum Hydrocarbon Mixtures* (RG-366/TRRP-27). Be sure to clearly label the information to adequately identify the COC, the input parameters, the model used, and the tier under which the evaluation was conducted. Document the applicability of non-default input parameters with lab reports, calculations, maps, or other justification. If PCLs have been adjusted due to cumulative risk/hazard level, aesthetic concerns, residual soil saturation, or theoretical soil vapor calculations, complete the appropriate tables and discuss the logic and methods used to make the adjustments. Support non-default input parameters and development of Tier 2 and 3 PCLs with complete documentation and justification. Unsubstantiated information will be considered invalid. Exposure factors that cannot be varied are listed in §350.74. Include verification that the TCEQ Executive Director has approved a variance from default exposure factors.

For convenience, Tier 2 tables are provided in this appendix. Use the tables only as necessary. Repeat the tables as necessary to document PCL development for different media, and for differing PCLs on-site and off-site. If Tier 3 PCLs were calculated, develop tables to document the inputs. If a Tier 2 dilution factor was calculated, provide maps and cross sections, if not referenced elsewhere in the report, to illustrate the location and measurements for deriving the inputs.

Appendix 9 Tables

COC Chemical/Physical Parameters and Toxicity Factors

Use these two tables only when a parameter was changed from that listed in rule or guidance. If a parameter different from that listed in rule or guidance was not used, do not submit this table. Provide in this appendix the associated supporting documentation. See *Toxicity Factors and Chemical/Physical Parameters* (RG-36/TRRP-19) for more information.

Properties for many COCs are listed in the Chemical/Physical Properties table in the Tier 1 PCL tables available on the TRRP web page. Use this table to list ONLY those COCs that are not included in the rule or web page or those COCs for which the person changed the value from a Tier 1 default. Only complete the portions that apply to these particular COCs. Note that values for shaded columns may not be changed from values listed in the rule. Include the calculations in this appendix and document the sources of information for those properties changed in accordance with §350.73(e). Do not complete this table for those COCs where the properties are the same as those listed in Figure 30 TAC 350.73(e) or in the chemical/physical properties table available from <http://www.tnrc.state.tx.us/permitting/trrp.htm>.

COC	Physical state	Type	M.W. (g/mole)	H' (cm ³ -H ₂ O/cm ³ -air)	LogK _{oc}	LogK _d	D _{air} (cm ² /s)	D _{wat} (cm ² /s)	Solubility (mg/l)	Vapor pressure (mm Hg)	Log K _{ow}	Br _{Abg} (g soil/g D.W.)	Br _{Bg} (g soil/g D.W.)

Physical state	s - solid at 20°C; l - liquid at 20°C; g - gaseous at 20°C;	K _d	Soil-water partition coefficient (cm ³ -H ₂ O/g-Soil)
Type	O: organic; I: inorganic; M: metal; OA: organic acid	D _{air}	Diffusion coefficient in air (cm ² /s)
M.W.	Molecular weight (g/mole)	D _{wat}	Diffusion coefficient in water (cm ² /s)
H'	Dimensionless Henry's Law Constant H' = H x 41.57 at 20°C (cm ³ -H ₂ O/cm ³ -air)	K _{ow}	Octanol-water partition coefficient (cm ³ -H ₂ O/cm ³ -Octanol)
H	Henry's Law Constant (atm-m ³ /mole)	Br _{Abg}	Soil-to-above ground plant biotransfer factor (g soil/g plant tissue dry weight)
K _{oc}	Soil organic carbon-water partition coefficient (cm ³ -H ₂ O/g-Carbon)	Br _{Bg}	Soil-to-below ground plant biotransfer factor (g soil/g plant tissue dry weight)

List the COCs not included in the Toxicity Factors Table. Do not complete this table if the toxicity factors are the same as those in the Toxicity Factors Table as provided in the Tier 1 PCL tables at <http://www.tnrc.state.tx.us/permitting/trrp.htm>. Note that the toxicity factors must be provided by the TCEQ before use.

Provide the date of the toxicity factors table used: _____

COC	Reference concentration RfC ¹ (mg/m ³)	Oral reference dose RfD _o (mg/kg-day)	Dermal reference dose RfD _d (mg/kg-day)	Dermal slope factor SF _d (mg/kg day)	Oral slope factor SF _o (mg/kg day)	Inhalation unit risk factor URF (µg/m ³)	Relative bioavailability factor RBAF (unitless)	Dermal absorption fraction ABS _d ² (unitless)	Gastrointestinal absorption fraction ABS _{GI} (unitless)

¹ When no RfC or URF is available, use the most current TCEQ Chronic Remediation-Specific Effects Screening Level value as the RfC.

² It is not necessary to calculate a soil dermal contact RBEL for COCs with a vapor pressure in mm HG ≥ 1.

Surface Soil - $TotSoil_{Comb}$

Tier 2 Evaluation

Use these tables to document the derivation of Tier 2 $TotSoil_{Comb}$ PCLs. Show the calculations in this appendix.

Specify if table is for on-site or off-site property _____ On-site _____ Off-site
 Off-site land use(s) for purpose of PCL development¹: _____ Residential _____ Commercial/industrial

	Soil bulk density ρ_b (g/cm ³)	Total porosity θ_T (cm ³ /cm ³)	Volumetric water content θ_{ws} (cm ³ /cm ³)	Volumetric air content θ_{as} (cm ³ /cm ³)	Fraction organic carbon foc (g/g)	Garden soil fraction organic carbon foc (g/g)	Fraction vegetative cover V	Wind speed U_m (m/s)	Equivalent threshold value of windspeed U_t (m/s)	Function dependent on (U_t/U_m) F(x)	Averaging time AT.w (years)	Exposure duration ED.w (years)	Exposure frequency EF.w (days/yr)
Tier 1 defaults	1.67	0.37	0.16	0.21	0.008	0.008	0.50	4.80	11.32	0.224	25	25	250
Tier 2 values													

COC	Source area size (acres)	Affected soil thickness d_s (cm)	Q/C	VFss (mg/m ³ /mg/kg)	PEF	Carcinogenic						Noncarcinogenic						$TotSoil_{Comb}$ PCL (mg/kg)
						Air	Soil	Soil	AbgVeg	BgVeg	PCL	Air	Soil	Soil	AbgVeg	BgVeg	PCL	
						RBEL Inh-c	RBEL Ing-c	RBEL Derm-c	RBEL Ing-c	RBEL Ing-c		RBEL Inh-nc	RBEL Ing-nc	RBEL Derm-nc	RBEL Ing-nc	RBEL Ing-nc		

¹ Repeat the table if needed for different off-site land uses.

Surface and Subsurface Soil - ^{GW}Soil

Tier 2 Evaluation

Specify media to which tables apply _____ Surface soil _____ Subsurface soil

Specify if table is for on-site or off-site property _____ On-site _____ Off-site
 Off-site land use(s) for purpose of PCL development¹: _____ Residential _____ Commercial/industrial

	Soil bulk density ρ_b (g/cm ³)	Volumetric water content θ_{ws} (cm ³ /cm ³)	Volumetric air content θ_{as} (cm ³ /cm ³)	Fraction organic carbon foc (g/g)	Groundwater Darcy velocity U_{gw} (cm/year)	Aquifer thickness b_{gw} (m)	Ground-water gradient i (m/m)	Hydraulic conductivity K (m/day)	Average annual precipitation P (cm/yr)	Net infiltration rate I_f (cm/yr)	Saturated hydraulic conductivity of vadose zone soils K_{vs} (cm/s)
Tier 1 defaults	1.67	0.16	0.21	0.002	NA	NA	NA	NA	NA	NA	NA
Tier 2 values											

COC	Critical GW PCL (from Table 12A)		Affected soil thickness L_1 (cm)	Depth from top of affected soil to gw table L_2 (cm)	Source area width parallel to gw flow W_s (m)	GW mixing zone thickness δ_{gw} (m)	Soil-leachate partition factor K_{sw} (mg/L/mg/kg)	Lateral dilution factor LDF	^{GW} Soil PCL (mg/kg)
	(mg/L)	pathway ²							

¹ Repeat the table if needed for different off-site land uses.

² Specify the pathway for the critical groundwater PCL (^{GW}GW_{Ing}, ^{GW}GW_{Class3}, ^{Air}GW_{Inh-V}, ecological PCL (eco), ^{SW}GW, etc.)

Subsurface Soil – AirSoil_{Inh-V}
Tier 2 Evaluation

Specify if table is for on-site or off-site property _____ On-site _____ Off-site
 Off-site land use(s) for purpose of PCL development¹: _____ Residential _____ Commercial/industrial

	Soil bulk density ρ_b (g/cm ³)	Total porosity θ_T (cm ³ /cm ³)	Volumetric water content θ_{ws} (cm ³ /cm ³)	Volumetric air content θ_{as} (cm ³ /cm ³)	Averaging time ² AT.w (years)	Exposure duration ² ED.w (years)	Exposure frequency ² EF.w (days/yr)
Tier 1 defaults	1.67	0.37	0.16	0.21	25	25	250
Tier 2 values							

COC	Source area size (acres)	Affected soil thickness d_s (cm)	Q/C	K_d (cm ³ -water/g-soil)	VF _{ss} (mg/m ³ /mg/kg)	Carcinogenic		Noncarcinogenic		AirSoil _{Inh-V} PCL (mg/kg)
						AirRBEL _{Inh-c}	PCL	AirRBEL _{Inh-nc}	PCL	

¹ Repeat the table if needed for different off-site land uses.

² Prior approval from the TCEQ Executive Director is required for the variance (see §350.74(j)(2)).

Theoretical Soil Saturation Limit (C_{sat})

Use these tables to determine a property-specific theoretical soil saturation limit in order to demonstrate the volatilization pathways are not applicable for a particular COC. See §350.75(i)(8) for applicability. Support non-default parameters by providing supporting documentation, the equation, and calculations in this appendix.

Specify media to which tables apply _____ Surface soil _____ Subsurface soil

	Volumetric water content in vadose soils θ_{ws} (cm ³ /cm ³)	Volumetric air content in vadose soils θ_{as} (cm ³ /cm ³)	Fraction organic carbon in soil/gw F_{oc} (g/g)	Soil bulk density ρ_b (g/cm ³)
Tier 1	0.16	0.21	0.002	1.67
Tier 2				

COC	Aqueous solubility of pure COC S (mg/L)	Henry's Law Constant (air-water partition coefficient) H'	Soil-water partition coefficient K_d (cm ³ /g)	Organic carbon partition coefficient K_{oc} (cm ³ /g)	C_{sat} PCL (mg/kg)

Residual Soil Saturation Limit

Use these tables to determine the presence of NAPL and estimate the concentration of an organic COC at which NAPL becomes mobile. See §350.75(i)(9) for applicability. **Support non-default parameters by documentation and explanation.** Support non-default parameters by providing supporting documentation, the equation, and calculations in this appendix.

Specify media to which tables apply ☐ Surface soil ☐ Subsurface soil

	Residual saturation Res_{sat} (cm ³ /cm ³)	Total soil porosity θ (cm ³ /cm ³)	Density of NAPL ρ_{NAPL} (g/cm ³)	Soil bulk density ρ_b (g/cm ³)
Tier 1	0.04514 ¹	0.37	1	1.67
Tier 2				

COC	Soil _{Res} PCL (mg/kg)

¹ The value listed in the rule is in error.

Risk Level and Hazard Check

Specify media to which table applies ____ Surface soil ____ Subsurface soil ____ Groundwater

Use this table to document the adjustment of a PCL based on cumulative risk. Repeat this table for each complete or reasonably anticipated to be complete exposure pathway in the medium for which there are 10 or more carcinogens or 10 or more noncarcinogens acting through a single exposure pathway. When adjusting the $TotSoil_{Comb}$ PCL using exposure areas, specify the exposure area to which the adjustment applies. Do not use this table for $^{GW}Soil$, $^{GW}GW_{Class3}$, or ^{SW}GW .

Complete this form for both the carcinogenic and noncarcinogenic effects for each COC for each human health exposure pathway using PCLs calculated at chosen tier. For example, for a given exposure pathway, if a Tier 1 PCL is calculated for COC "X," a Tier 2 PCL is calculated for COC "Y," and a Tier 3 PCL is calculated for COC "Z," those PCLs are included in the table together and are not segregated by tier. This is a precursor to establishing critical PCLs. If a PCL was not established because of lack of an applicable toxicity factor, input "NA" for the COC in the applicable column. For TPH, complete only the noncarcinogenic portion and do not handle concurrently with the other non-TPH COCs. TPH is treated in isolation. See TCEQ guidance document *Risk Levels and Hazard Indices* (RG-366/TRRP-18) for specific information on cumulative adjustments and *Development of Human Health PCLs for Total Petroleum Hydrocarbon Mixtures* (RG-366/TRRP-27) for TPH.

COC`	Carcinogenic Endpoint			Non-Carcinogenic Endpoint		
	PCL _i -adj	PCL _i (mg/kg or mg/L)	PCL _i -adj/PCL _i (ratio)	PCL _i -adj	PCL _i (mg/kg or mg/L)	PCL _i -adj/PCL _i (ratio)
Cumulative Risk Level (RL):				Hazard Index (HI):		

Groundwater Non-Default Affected Property Parameters

Name(s) of groundwater-bearing unit(s): _____

COC-Specific Affected Property Parameters

COC	Cross sectional area of air emissions source A (m ²)	Length of air emissions source parallel to wind direction L (m)

Affected Property Parameters

Term	Affected property parameters	Tier 1 defaults	Value used for Tier 2/3
GW pH	Measured groundwater pH	NA	
σ_y	Transverse air dispersion coefficient (m) (dispersion estimates based on the Pasquill-Gifford system adopted by U.S. Public Health Service, Turner, 1970, <i>EPA Workbook of Atmospheric Dispersion Estimates</i> ; see Cooper & Alley, 1994, <i>Air Pollution Control</i>)	NA	
σ_z	Vertical air dispersion coefficient (m) (dispersion estimates based on the Pasquill-Gifford system adopted by U.S. Public Health Service, Turner, 1970, <i>EPA Workbook of Atmospheric Dispersion Estimates</i> ; see Cooper & Alley, 1994, <i>Air Pollution Control</i>)	NA	
Q	Air volumetric flow through mixing zone (m ³ /s)	NA	

Groundwater – ^{GW}GW_{Ing}¹ or ^{GW}GW_{Class3}¹ and ^{Air}GW_{Inh-V}

Groundwater-bearing unit: _____ Repeat tables for each groundwater-bearing unit.

Specify if table is for on-site or off-site property _____ On-site _____ Off-site

Off-site land use(s) for purpose of PCL development²: _____ Residential _____ Commercial/industrial

Tier 2 Evaluation

	Total porosity (vadose zone) θ_T (cm ³ /cm ³)	Volumetric water content (vadose zone) θ_{ws} (cm ³ /cm ³)	Volumetric air content of vadose zone soils θ_{ws} (cm ³ /cm ³)	Volumetric water content (capillary fringe) θ_{wcap} (cm ³ /cm ³)	Volumetric air content (capillary fringe) θ_{acap} (cm ³ /cm ³)	Vadose zone thickness h_v (cm)	Capillary fringe thickness h_{cap} (cm)	Depth to gw L_{gw} (cm)	Average windspeed U_{air} (cm/sec)	Ambient air mixing zone height δ_{air} (cm)	Averaging time ³ AT.w (years)	Exposure duration ³ ED.w (years)	Exposure frequency ³ EF.w (days/yr)
Tier 1 defaults	0.370	0.16	0.21	0.333	0.037	300	5	305	240	200	25	25	250
Tier 2 values													

COC	Source area width W_g (cm)	VF _{wamb} (mg/m ³ /mg/L)	Carcinogenic				Noncarcinogenic				MCL, MCL2 or EPA ⁴	^{GW} GW _{Ing} or ^{GW} GW _{Class3} PCL		^{Air} GW _{Inh-V} PCL	
			^{GW} RBEL _{Ing} or ^{GW} RBEL _{Class3}	PCL	^{GW} RBEL _{Inh}	PCL	^{GW} RBEL _{Ing} or ^{GW} RBEL _{Class3}	PCL	^{GW} RBEL _{Inh}	PCL		(mg/L)	>S ⁵	(mg/L)	>S

¹ Only applies for COCs for commercial/industrial land use without an MCL and those for which a variance under §350.74(j)(2) is obtained.

² Repeat the table if needed for different off-site land uses.

³ Prior approval from TCEQ Executive Director for the variance is required (§350.74(j)(2)).

⁴ Specify whether the PCL is based on the MCL, secondary MCL, or other EPA value.

⁵ Specify if PCL exceeds the aqueous solubility limit.

Groundwater - ^{SW}GW and ^{Sed}GW

Provide a map that illustrates how the input parameters were measured or determined.

Groundwater-bearing unit: _____

Repeat tables for each affected GWBU discharging to surface water.

Surface water body: _____

Parameter Selection for Tier 2 Dilution Factor Models

Term	Description	Defaults	Value Used
7Q2 flow rate	Seven-day low-flow occurring on average every two years (cm/s)	NA	
U_{gw}	Groundwater Darcy velocity (cm/yr)	NA	
K	Hydraulic conductivity (cm/s)	NA	
i	Lateral hydraulic flow gradient (cm/cm)	NA	
δ_p	Thickness of affected groundwater (cm) in excess of the ^{SW} RBEL or the SW_{eco}^1	NA	
δ_{pi}	Thickness of affected groundwater in excess of ^{SW} RBEL discharging to surface water stream ¹ (cm)	NA	
L_m	Influent width of groundwater PCLE zone at point of discharge to surface water ¹ (cm)	NA	
Q_{igw}	Average influent flow of affected groundwater to surface water ¹ (cm ³ /s)	NA	
V_{sw}	Average surface water velocity in groundwater discharge mixing area (cm/s)	lake: 0.5 cm/s tidal water: 1 cm/s large river (>100 cfs): $3.5 \times (7Q2)^{0.5}$ cm/s	
W_{sw}	Distance from the shore extending into the surface water body through which affected groundwater discharges through sediment into surface water ¹ (cm)	NA	
h_{sw}	Depth of surface water mixing area above the affected groundwater discharge to surface water (cm)	30	
Q_{sw}	Flow of surface water through the surface water mixing area - 7Q2 flow for a stream with $7Q2 \leq 100$ cfs or mixing area flow for other water body (cm ³ /s)	NA	
ρ_{sed}	Sediment bulk density (g/cm ³)	1.67	
θ_T	Total sediment porosity (cm ³ /cm ³)	0.37	
foc	Fraction organic carbon in sediment (g/g)	0.01	
K_{sed-w}	Sediment-groundwater partition coefficient (mg/L/mg/kg)	NA	
SWMF	Surface water mixing factor	1	

COC	^{SW} RBEL or SW_{eco} (mg/L)	DF	^{SW} GW (mg/L)	Tier

COC	Sediment RBEL	k_d	k_{oc}	^{Sed} GW (mg/L)	Tier

¹ This value may be determined for each COC if desired. If so, attach separate table listing the value used for each COC.

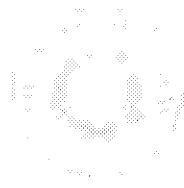
Appendix 10 Laboratory Data Packages and Data Usability Summary (NA)

Use this appendix to provide lab reports and supporting information. Print lab reports double-sided and also include with the report a CD with the lab reports in pdf format. Submit one data usability summary for all the data (field and laboratory) used in this APAR. Report data in conformance with the TCEQ guidance document *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13). For each laboratory data package submitted with the APAR, provide a signed laboratory data package cover page (LDCP) and the items listed on the LDCP. The LDCP form is provided in Appendix A of *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13).

Appendix 11 Miscellaneous Assessment

Include the results of assessment or sampling activities that are not included in the media sections. This section may be used to describe geophysical investigations such as seismic surveys, ground-penetrating radar surveys, and resistivity surveys; wipe samples; waste sampling (other than for waste classification purposes); concrete slab sampling; biota sampling (flora or fauna); food sampling; and other topics applicable to the assessment. Include tables and figures as necessary to summarize and illustrate assessment results.

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 18, 2010

Mr. Charles R. Robertson
Vice President
Terra-Solve, Inc.
3216 Commander Drive, Suite 103
Carrollton, Texas 75006-2518

Re: Comments to "Request for Additional Information"
Former F.J. Doyle Salvage

Personal Address / Ex. 6 (905 N. Poplar Street), Leonard, Fannin County, Texas
TCEQ SWK No. 86951; EPA CERCLIS No. TXD980865109; Customer No.
CN600359095; Regulated Entity No. RN100649227

Dear Mr. Robertson:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above referenced submittal. A list of the comments is enclosed.

Please call me at (512) 239-4940 if you need additional information or wish to discuss these comments or the due date. Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in cursive script, reading "P Lall", is positioned below the word "Sincerely,".

Pindy Lall, Project Manager
VCP Team 1, VCP-CA Section
Remediation Division

PSL/jdm

Enclosure: Comments

cc: Mr. Sam Barrett, Waste Program Manager, TCEQ Region 4, Dallas/Fort Worth

Comments

1. Surface soils need to be delineated horizontally to 1.1 mg/kg for polychlorinated biphenyls (PCBs). Surface soils under Texas Risk Reduction Program (TRRP) are soils at a depth of 0-15 feet. Copper and hexachlorobenzene will also be required to be delineated horizontally.
2. Soil contamination will need to be delineated vertically.
 - a. Soil vertical delineation is required to method quantitation limit (MQL) unless a groundwater sample is taken at the site.
 - b. If a groundwater sample is taken, the entire soil column can be assumed to be contaminated.
3. If the site enters the Voluntary Cleanup Program (VCP), a groundwater sample will be required.
4. In situations where the entire soil column is assumed to be contaminated, a control (such as a parking lot that serves as an impervious cover) may be implemented to prevent exposure. A parking lot may be utilized as a impervious cover depending on the material used; however, maintenance of the parking lot would be required to ensure the integrity of the parking lot as a control. Any area that is not covered will be required to be removed, decontaminated, and/or controlled by other means.
5. A demonstration that the drainage ditches are not impacting surface water will be necessary.

Appendix 12 Waste Characterization and Disposition Documentation (NA)

Use this appendix to document waste characterization and disposition of wastes associated with an assessment or remediation, including investigation derived waste and other wastes generated during field activities. Describe the wastes generated and the results from the completed waste classification and disposal/treatment activities. Supporting documentation may include written documentation and process knowledge. Provide copies of waste characterization sample analytical data packages.

Appendix 13 Photographic Documentation

If not provided elsewhere, include relevant dated and oriented photographs depicting the affected property and field activities (e.g., potential source areas, surrounding properties, abatement activities, etc.).

Appendix 14 Standard Operating Procedures (NA)

Use this appendix to provide copies of the standard operating procedures followed during field activities (for example, sampling methods, drilling methods).

Appendix 15 OSHA Health and Safety Plan (§350.74(b)(1)) (NA)

Use this appendix only for documentation supporting the use of an available eight-hour time weighted average occupational inhalation criteria as the air inhalation RBEL. Provide documentation of the health and safety plan, a certification that the plan is followed, and the demonstration that offsite receptors are protected per §350.74(b)(1).

Appendix 16 Reference List

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), for Fannin County, Texas, Unincorporated Area; Panel Number 480807 0010B, November 8, 1977.

Geologic Atlas of Texas, Sherman Sheet; University of Texas at Austin, Bureau of Economic Geology, 1967, revised 1991.

GeoSearch, LP (GeoSearch), The GeoSearch Aerial Photo Decade Package, Job Number 11795, November 9, 2009, for Aerial Photographs, 1950, 1963, 1969, 1989, 1996, and 2004.

GeoSearch, LP (GeoSearch), The GeoSearch Radius Report with Geoplus; Job Number 11795, November 9, 2009.

National Oceanic & Atmospheric Administration, National Climatic Data Center; <http://www.noaa.com>.

Railroad Commission of Texas, Public GIS Map Viewer, <http://gis2.rrc.state.tx.us/public>.

Texas Water Development Board (TWDB) Groundwater Database, Fannin County.

www.twdb.state.tx.us/publications/reports/GroundWaterReports/GWDatabaseReports/GWdatabaserpt.htm
TexShare Database, Sanborn Map Reports. No coverage.

United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS), *Soil Survey of Fannin County, Texas*; 2001.

United States Geological Survey (USGS) 7.5-Minute Series Topographic Map; *Leonard, Texas Quadrangle*; 1964.

IHWREG 80951
CO./DATE: 5/27/15
DOC. NAME: UNIT CLOSURE NOTICE
IDA COMM#: 19842957
PROJ. MGR: E. WEHNER

Engineer to CR ✓

COPY

7.9. Doyle Salvage Transformers

905 N. Popular St.

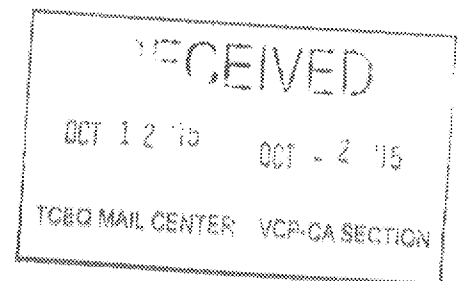
Leonard, TX 75452

SWR 80951

Waste Program Management

TCEQ Region 4 Office

Fort Worth, Texas



Danny Doyle

Personal Address / Ex. 6

Leonard, TX 75452

May 27, 2015

Texas Commission on Environmental Quality

P.O. Box 13087

Austin, TX 78711-3087

Re: Request for Closure

SWR 80951

7.9. Doyle Salvage Transformers

905 N. Popular St.

Leonard, TX 75452

I would like to request the closure of the following sites as requested with TCEQ:

1. 00012061 – Used oil from Non-PCB Transformer scrapped out for salvage
2. 00023041 – Furnace
3. 00039012 – Dumpster for plant refuse from office and shop

The Following is a visual report of the site and all information I am able to provide since the transformer salvage was run by my dad, Frank Doyle, who is now deceased. Any and all records have been discarded because no one was aware that it would be needed at further dates.

The only thing left on the site is one 300 gallon Non-PCB container and 3-4 Non-PCB 55 gallon barrels which are in the process of being removed since this is a requirement for closure.

The last time any salvage work was done was in August of 1999. The transformers that were received had all oil removed by the electric company prior to their delivery to the location. The only names of companies that I can recall delivering transformers to the site are:

1. Louisiana Power & Light
2. Yazoo Valley in Mississippi.
3. S.W. Power Company in Longview, Texas

Danny Doyle

Personal Address / Ex. 6

Leonard, TX 75452

May 27, 2015

I also remember that no transformers could be sent or delivered by these companies that were more than 50 PPM. If there was any small amount of oil that had been left inside, which was a very small amount, it would be picked up by a company out of Oklahoma I believe called Wagner. I think Waste Management was the company that provided and picked up the dumpster from the property.

As for the furnace, it was in the building when Don Sadler took over use of the building about five years ago. He cleaned out the building and it was sold for scrap. I enclosed pictures of the location of the unit to be reviewed.

Item 1: Where the excess oil was kept, as you can see, was inside a concrete contained area and barrels there were clearly marked Non-PCB. The container as you can see is still in good condition.

Item 2: The furnace was inside the building and enclosed are 2 typical photos of the floors, which is still in good condition. This confirms there was no leakage through the floor into the grounds underneath.

Item 3: The location of where the waste dumpster sat was a concrete slab that is still in good condition. The dumpster in the photo was not there when the salvage operation was in service.

I would ask you to refer to the soil samples taken by TCEQ & EPA in 1995 and again in 1998. In your report it states that this site was not considered to be a health hazard. TCEQ and EPA also tested the ground water at 3 locations and found there was no significant quantity of PCB or other chemical contaminants at these locations. The report also states that PCB attaches itself to organic matter in the soil and moves very slowly, if it moves at all.

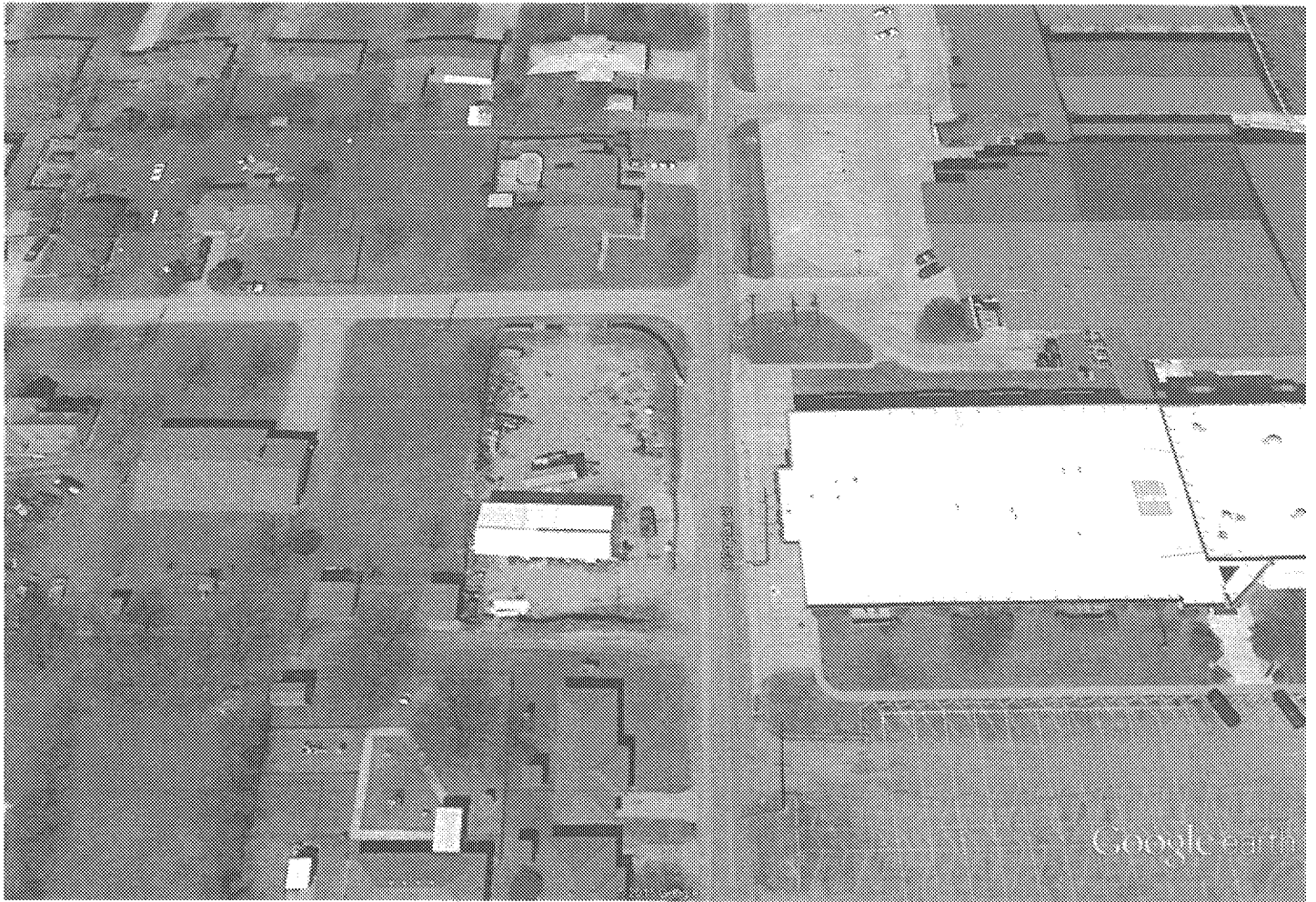
TCEQ and EPA is fully aware of the intended use of this property location. It will be a parking lot completely covered in concrete with a 24" beam around the perimeter. This would be a low occupancy location. With the low levels of PCB and the intent of use of the property it would be an excellent way to eliminate this location and take it off the books of TCEQ. Through conversation and meetings with the EPA it would fall under the light occupancy use for this property.

Thank you

Danny Doyle

NOTE: Please CC any questions and your answer to:

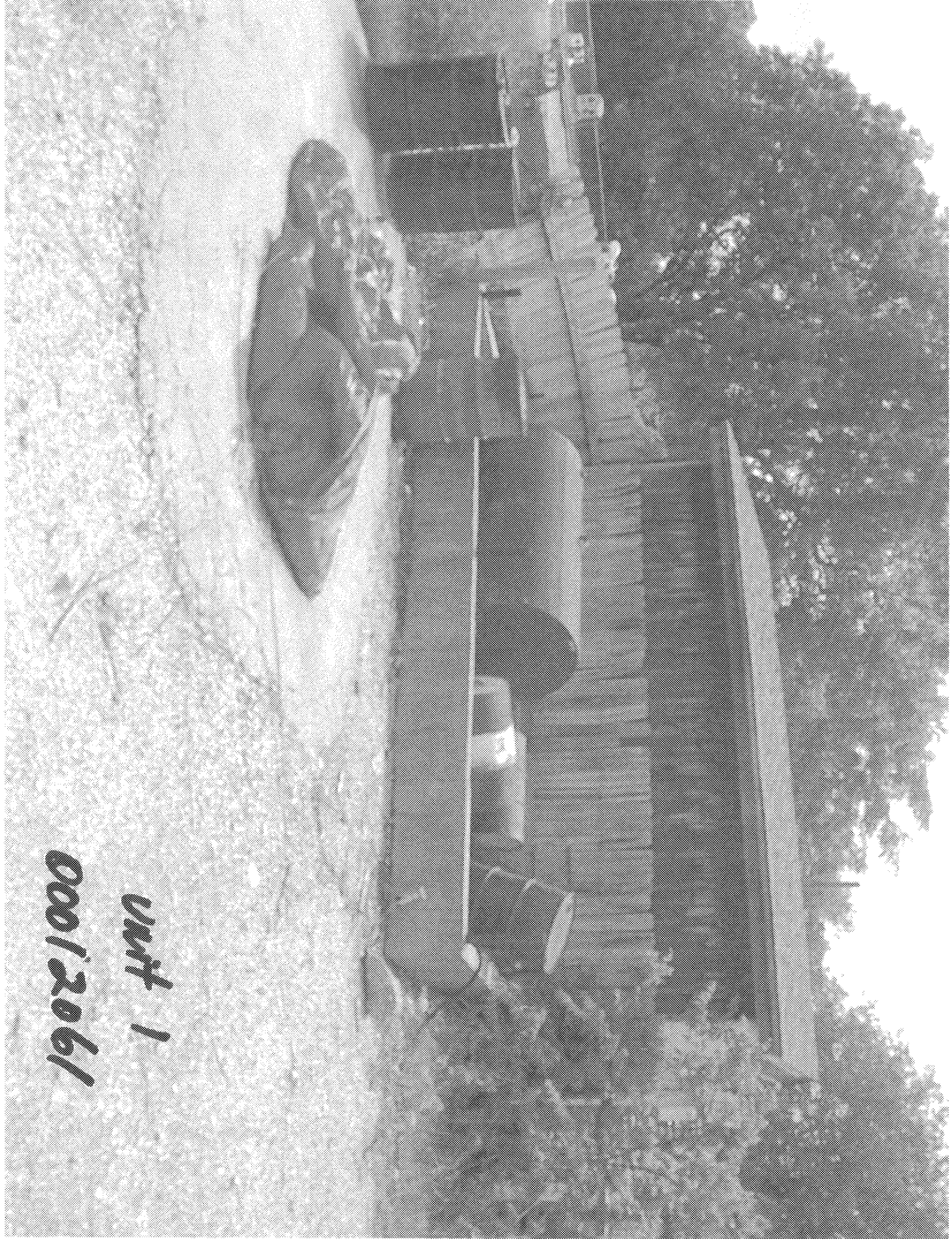
Personal Address / Ex. 6



Google earth

feet 200
meters 90





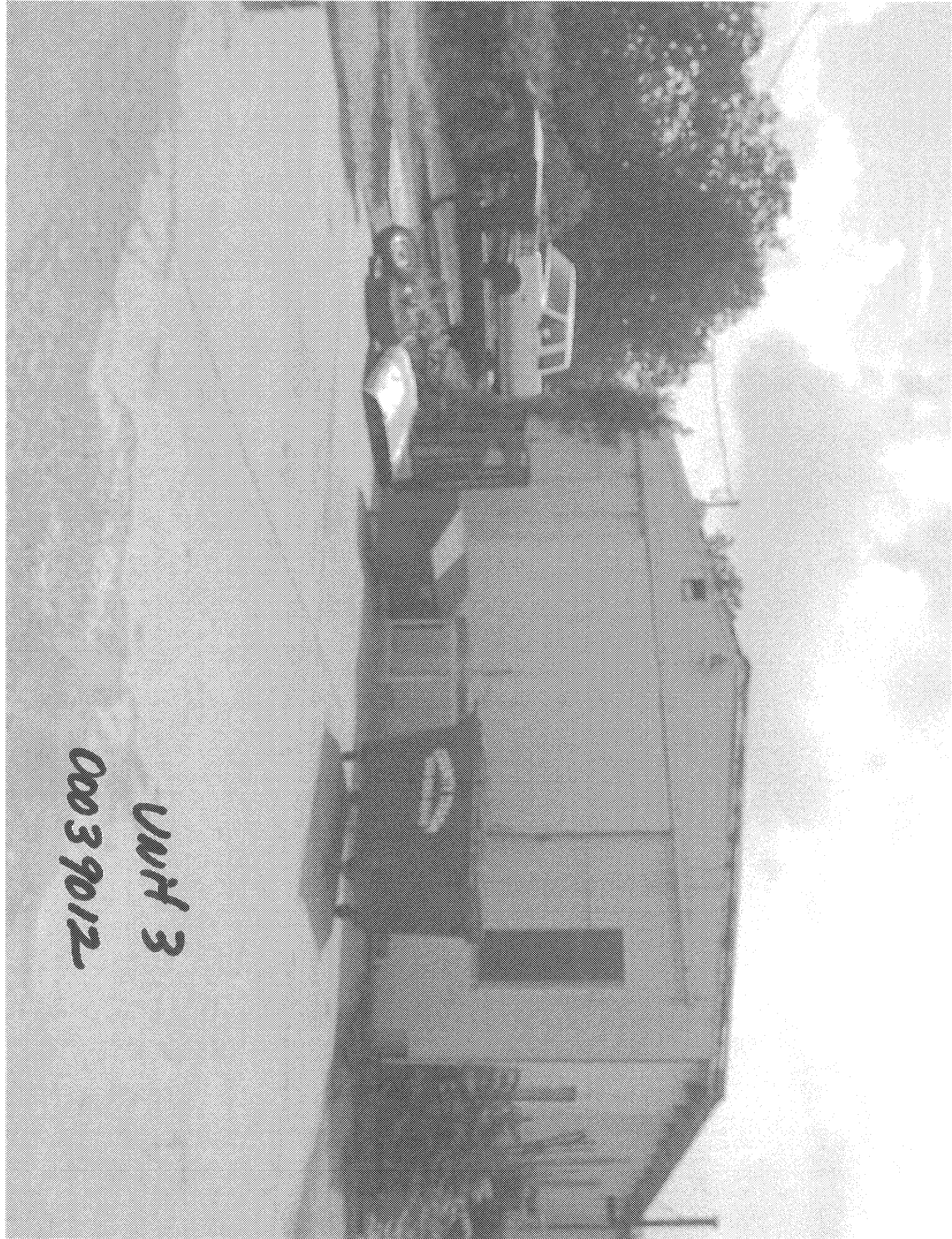
unit 1

00012061



Unit 2

0002 3041



Unit 3

0039012

Cover Page

Program ID No. (primary): SWR 80951 Report date: August 2015
TCEQ Region No.: 4 MSD Certificate No.: _____
Additional Program ID Numbers.: SWR/Facility ID No.: _____ PST Facility ID No.: _____
DCRP ID No.: _____ VCP ID No.: _____ LPST ID No.: _____
MSW Tracking No.: _____ HW Permit/CP No.: _____ Enforcement ID No.: _____
Other ID Nos.: EPA CERCLIS TXD980865109

Reason for submittal (check all that apply): Notice of Deficiency Letter Enforcement/Agreed order
☒ Initial submittal Permit/Compliance Plan Directive/NOV letter
☐ Revision Voluntary response Other: _____

On-Site Property Information

On-Site Property (Facility) Name: Former F.J. Doyle Transformer Salvage/Recycling Facility
Street no. 905 Pre dir: N. Street name: Poplar Street type: St Post dir: _____
City: Leonard County: Fannin County Code _____ Zip 75452
Nearest street intersection and location description: 0.344 acres, SW Corner of N. Poplar St and Personal Address / Ex. 6
Latitude: Decimal Degrees (indicate one) North 33.389437
Longitude: Decimal Degrees (indicate one) West 96.243147

Contact Person for On-Site Property Information and Acknowledgment

Company Name or Person: Heirs: Mr. Garry Doyle, Mr. Danny Doyle, Ms. Lynda Kaylor
Contact Name: Mr. Garry Doyle Title: Owner
Mailing Address: Personal Address / Ex. 6
City: Leonard State: TX Zip: 75452 Phone: _____
Email: _____ Fax: _____
Person is: ☒ property owner ☐ property manager ☐ potential purchaser ☐ tenant ☐ operator
other _____

By my signature below, I acknowledge the requirement of §350.2(a) that no person shall submit information to the executive director or to parties who are required to be provided information under this chapter which they know or reasonably should have known to be false or intentionally misleading, or fail to submit available information which is critical to the understanding of the matter at hand or to the basis of critical decisions which reasonably would have been influenced by that information. Violation of this rule may subject a person to the imposition of administrative, civil, or criminal penalties.

Signature of Person Danny Doyle Name (print): Danny Doyle Date: 9-13-15

Consultant Contact Person

Consultant Company Name: Terra-Solve, Inc.
Contact Person: Rick Robertson Title: VP
Mailing Address: PO Box 702522
City: Dallas State: TX Zip: 75370
Phone: 972-267-1900 Fax: _____ E-mail address rick@terra-solve.com

Professional Signatures and Seals

Professional Geoscientist

Charles R. Robertson

150

07/31/2016

Professional Geoscientist

Geoscientist License number

Expiration date

Signature

Date

972-267-1900

rick@terra-solve.com

Telephone number

FAX number

E-mail

Professional Engineer

Professional Engineer

P.E. License number

Expiration date

Signature

Date

Telephone number

FAX number

E-mail

Registered Corrective Action Specialists (RCASs) and Corrective Action Project Managers (CAPMs)

For LPST sites only.

Registered Corrective Action Specialist

RCAS Registration number

Expiration date

Signature

Date

Corrective Action Project Manager

CAPM Registration number

Expiration date

Signature

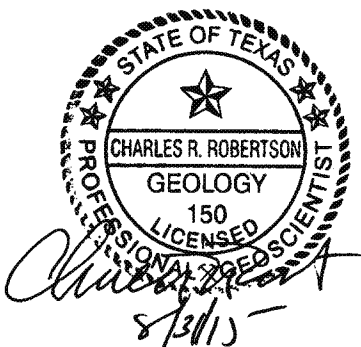
Date

Telephone number

FAX number

E-mail

Seals, as applicable:



APAR Table of Contents¹	Check if included
Cover Page	X
Professional Signatures and Seals	X
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Conclusions and Recommendations	X
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Table 1B - Potential Off-Site Sources	X
Figure 1A - On-Site Property Map*	X
Figure 1B - Affected Property Map*	X
Figure 1C - Regional Geologic Map*	X
Figure 1D - Regional Geologic Cross Section(s)*	X
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Table 2B - Affected Water Well Summary	X
Table 2C - Complete or Reasonably Anticipated to be Complete Exposure Pathways	X
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Figure 2B - Field Survey Photographs*	X
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Attachment 2B - Tier 1 Ecological Exclusion Criteria Supporting Documentation*	
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Section 4 Soil Assessment	
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Table 4C - Subsurface Soil Residential Assessment Levels	
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Table 5C - Groundwater Geochemical Data Summary*	
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Table 6B - Surface Water Data Summary*	
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Figure 6B - Photographs*	

¹ Items marked with an asterisk do not have prescribed formats (for example, laboratory reports).

	Check if included
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Table 8A - Outdoor Air Data Summary*	
Figure 8A - Outdoor Air COC Concentration Maps*	
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Section 10 COC Screening	
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Section 11 Soil Critical PCL Development	
Discussion of soil critical PCL evaluation	
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Executive Summary

Environmental Media	Actual or Probable Exposures On-Site?		Actual or Probable Exposures Off-Site?		Have notifications for actual or probable exposures been completed? (§350.55(e))		
	Yes	No	Yes	No	Yes	No	N/A
Soil	X		X			X	
Groundwater	X		X			X	
Sediment	X		X			X	
Surface Water		X		X		X	

Is there, or has there been, an affected or potentially affected water well? ☒ Yes ☐ No

If yes, what is the well used for? Public Supply Well, 370 feet to the SW

Actual land use: On-site: Res ☒ C/I Off-site affected property: ☒ Res ☐ C/I ☐ N/A

Land use for critical PCL determination: On-site: ☒ Res ☐ C/I Off-site affected property: ☐ Res ☐ C/I ☐ N/A

Did the affected property pass the Tier 1 ecological exclusion criteria checklist? ☐ Yes ☐ No

Affected groundwater-bearing unit(s) (in order from depth below ground surface), or uppermost groundwater-bearing unit if none affected

Unit No.	Name	Depth below ground surface (ft)	Resource Classification (1, 2, or 3)
1	Shallow	Not assessed	Unknown
2	Woodbine Formation	1,690	1
3			

Assessment

Environmental Media		Assessment Levels Exceeded?						Affected property defined to RAL?			Is COC extent stable or expanding?	General classes of COCs (VOCs, SVOCs, metals, etc.)
		On-Site?			Off-Site?							
		Yes	No	Not sampled	Yes	No	Not sampled	Yes	No	N/A		
Soil	Surface	X			X				X		Unknown	PCB, Mtls
	Subsurface	X			X				X		Unknown	PCB, Mtls
Groundwater				X			X		X		Unknown	PCB, Mtls
Sediment				X			X		X		Unknown	PCB, Mtls
Surface Water				X			X		X		Unknown	PCB, Mtls

NAPL Occurrence Matrix (Unknown, last sampled 1990s)

		NAPL Occurrence	Description
NAPL in vadose zone		No NAPL in vadose zone	There is no direct or indirect evidence of NAPL in the vadose zone
		NAPL in/on soil	NAPL detected in or on unsaturated, unconsolidated clay-, silt-, sand-, and/or gravel-dominated soils
		NAPL in fractured clay	NAPL detected in fractures of unsaturated fine-grained soils
		NAPL in fractured or porous rock	NAPL detected in unsaturated lithologic material
		NAPL in karst	NAPL detected in karst environment
NAPL at capillary fringe		No NAPL at capillary fringe	There is no direct or indirect evidence of NAPL at the capillary fringe
		NAPL at capillary fringe	NAPL detected at vadose-saturated zone transition, capillary fringe (in contact with water table)
NAPL in saturated zone		No NAPL in saturated zone	There is no direct or indirect evidence of NAPL in the saturated zone
		NAPL in soil	NAPL detected in saturated unconsolidated clay-, silt-, sand-, and/or gravel-dominated soils
		NAPL in fractured clay	NAPL detected in fractures of saturated fine-grained soil or other double-porosity sediments
		NAPL in saturated fractured or porous rock	NAPL detected in saturated lithologic material
		NAPL in saturated karst	NAPL detected in karst environment within the saturated zone
NAPL in surface water or sediment		No NAPL in surface water or sediment	There is no direct or indirect evidence of NAPL in surface water or sediments
		NAPL in surface water	NAPL detected in surface water at exceedance concentration levels or visual observation
		NAPL in sediments	NAPL detected in sediments at exceedance concentration levels or visual observation via migration pathway or a direct release

Remedy Decision

Environmental Media		Critical PCL exceeded on-site?			Critical PCL exceeded off-site?			PCLE zones defined?			General class (VOCs, SVOCs, metals, etc.) of COCs requiring remedy
		Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	
Soil	Surface	X			X				X		PCB, metals
	Subsurface	X			X				X		PCB, Metals
Groundwater											Not sampled
Sediment		X			X						PCB, metals
Surface Water											Not sampled

NAPL Triggers (Unknown, last sampled in 1990s)

NAPL Response Action Triggers		Description of Triggers
	No NAPL response action triggers	No NAPL triggers have been observed in any assessment zones (vadose, capillary fringe and saturated), nor in surface water or sediments
	NAPL vapor accumulation is explosive	NAPL vapors accumulate in buildings, utility and other conduits, other existing structures, or within anticipated construction areas at levels that are potentially explosive ($\geq 25\%$ LEL)
	NAPL zone expanding	NAPL zone is observed to be expanding using time-series data
	Mobile NAPL in vadose zone	NAPL zone is observably mobile, or is theoretically mobile based on COC concentrations and residual saturation
	NAPL creating an aesthetic impact or causing nuisance condition	NAPL is responsible for objectionable characteristics (e.g., taste, odor, color, etc.) resulting in making a natural resource or soil unfit for intended use
	NAPL in contact with Class 1 groundwater	NAPL has come in actual contact with saturated zone or capillary fringe of a Class 1 GWBU
	NAPL in contact with Class 2 or 3 groundwater	NAPL has come in actual contact with saturated zone or capillary fringe of a Class 2 or Class 3 GWBU
	NAPL in contact with surface water	Liquid containing COC concentrations that exceed the aqueous solubility in contact with surface water via various migration pathways or direct release to surface water
	NAPL in or on sediments	Liquid containing COC concentrations that exceed the aqueous solubility impact surface water sediments via migration pathway or a direct release

Conclusions and Recommendations

Use this section to summarize the major activities conducted, results, and conclusions of the assessment and to briefly discuss the recommended response actions.

Assessment Results

Investigation of the site began in 1990 by both EPA and TCEQ contractors, and soil samples collected indicated elevated levels of PCBs, yet no cleanup has ever been conducted. Please see the attached comprehensive chronology of the case and a figure showing the previous sampling points and their PCB concentrations. No groundwater samples have been collected.

On-site soils exceed the Tier I Residential PCLs for PCBs, copper, and hexachlorobenzene. Off-site residential properties to the west and south contain affected soil above the Tier I Residential PCLs for PCBs, copper, and hexachlorobenzene. Sediment samples from the Right-of-way's also exceed the Tier I PCLs for the above-mentioned constituents. The horizontal and vertical extent of these constituents in the soil has not been determined.

NAPL Discussion

All previous sample results are included in this report, however documentation of these efforts are incomplete and lost to time. No specific information on the presence or absence of NAPL was available. The proposed additional sampling will address this deficiency. If present, a NAPL management plans and assessment will be developed in accordance with the guidance documents *Risk-Based NAPL Management* (RG-366/TRRP-32) and *NAPL Assessment* (RG-366/TRRP-12A), respectively.

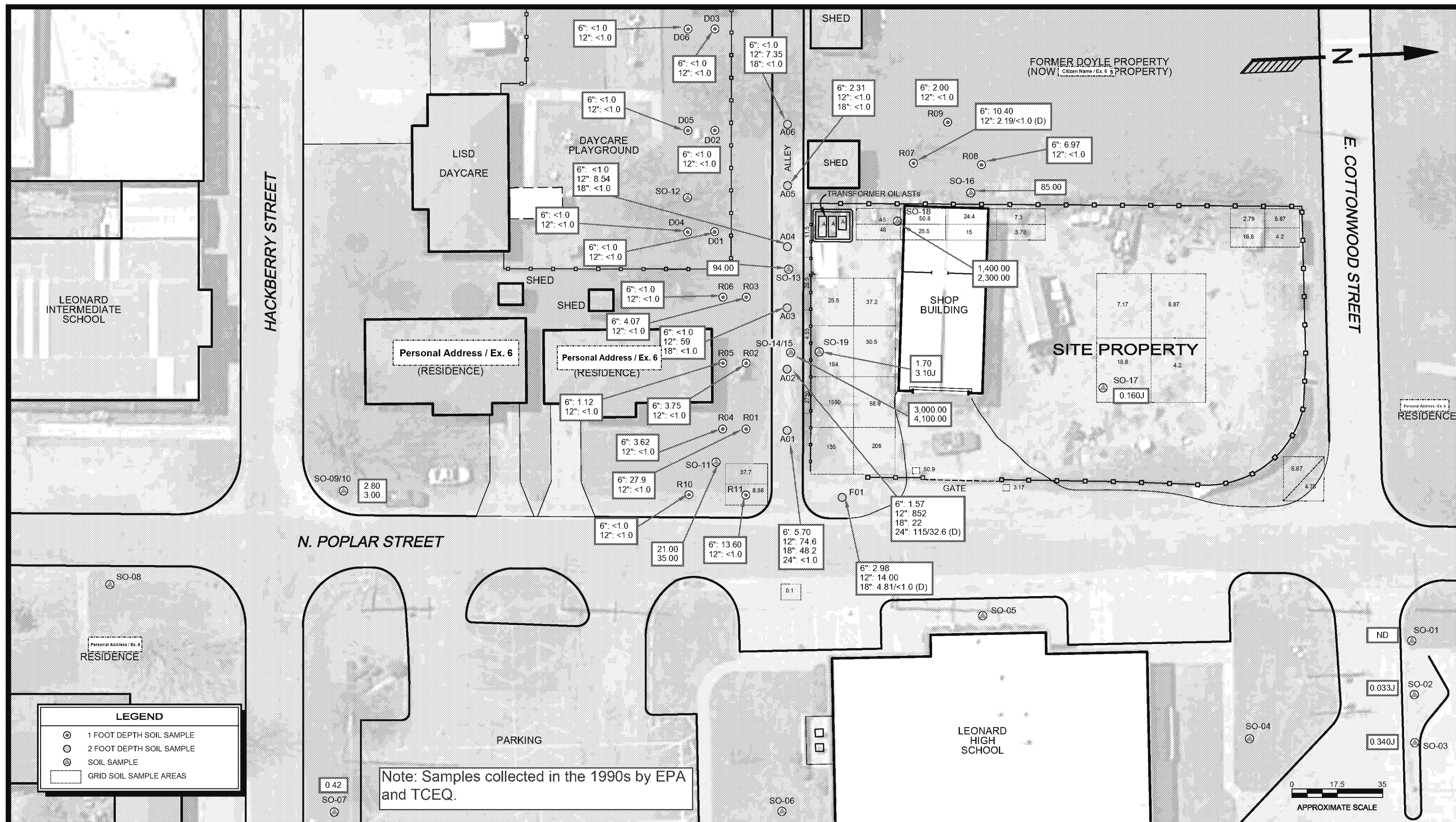
Response Actions and Recommendations

Remedy Standard B allows the use of physical and institutional controls to be used in combination with or in lieu of removal or decontamination of the COCs to block exposure or to control COCs such that exposure does not occur. After the current site conditions and groundwater pathway has been assessed or eliminated, any remaining off-site soils above the PCLs will be removed. The site will be covered by paving and maintained as an engineering control to prevent exposure to any remaining on-site soils above the PCLs. A deed restriction will be filed to prevent exposure to on-site soils exceeding PCLs.

The former F.J. Doyle Transformer Salvage site is planned to be razed and paved over and used for a parking lot for the Leonard ISD High School. It is anticipated that this engineering control and a Deed Restriction will be the ultimate Remedy Standard for the site. Terra-Solve recommends additional soil and groundwater samples be collected on site to determine the current site conditions. Terra-Solve also recommends that additional off-site soil samples be collected from the upper 15 feet of soil near the former soil sample locations and along the drainage ditches around the site perimeter, and that three monitoring wells be installed near the former source areas. Based on these results, the current conditions can be established and the groundwater exposure pathway can be evaluated, and any further efforts to determine the horizontal extent of COCs above the Tier I Residential PCLs that may be required. Any off-site soils exceeding the Tier I Residential PCLs will be removed.

Figure A - Affected Property and PCLE Zone Map

A map illustrating the results of the EPA and TCEQ sampling efforts from the 1990s is attached. As shown on the map, PCBs above the Tier I Residential PCLs are present both on site and off site.





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PCB CONCENTRATION MAP
FORMER F.J. DOYLE SALVAGE TRANSFORMERS
Personal Address / Ex. 6 (905 N. POPLAR STREET)
LEONARD, FANNIN COUNTY, TEXAS

DATE: JULY 2014	SCALE: SEE ABOVE
PROJECT NO.: 09724	FIGURE NO.: A

Specialized Submittals Checklist

 X Check here if no specialized submittals in this report

	If included, specify section or appendix
Ecological Risk Assessment	
Reasoned justification, expedited stream evaluation, Tier 2 or 3 ecological risk assessment, and/or proposal for ecological services analysis	
Statistics	
Calculated site-specific background concentrations	
Used alternate statistical methods to determine proxy values for non-detected results (§350.51(n))	
Calculated representative concentrations (§350.79(2)) for remedy decision	
Analytical Issues	
Used SQL for assessment or critical PCL instead of the MQL (§350.51(d)(1)) or PCL (§350.79)	
The MQL of the analytical method exceeds assessment levels/critical PCLs (§350.54(e)(3))	
Human Health/Toxicology	
Variance to exposure factors approved by TCEQ Executive Director ¹ (§350.74(j)(2))	
Developed PCLs based on alternate exposure areas	
Evaluated non-standard exposure pathway (e.g., agricultural, contact recreation, etc)	
Combined exposure pathways across media for simultaneously exposed populations (§350.71(j))	
Adjusted PCLs due to residual saturation, cumulative risk, hazard index, aesthetic concerns, or theoretical soil vapor	
Utilized non-default human health RBELs to calculate PCLs (includes use of non-default parameters, toxicity factors not published in rule, etc.) (§350.51(l), §350.73, §350.74)	
Calculated Tier 2 or 3 RBELs/PCLs or TSCA levels for polychlorinated biphenyls, or calculated Tier 2 or 3 RBELs/PCLs for cadmium, lead, dibenzo-p-dioxins, dibenzofurans, and/or polycyclic aromatic hydrocarbons	
Calculated Tier 1, 2, or 3 total petroleum hydrocarbon (TPH) PCLs	
Developed sediment/surface water human health RBELs and PCLs	
Fate and Transport	
Used or developed groundwater to surface water dilution factors	
Calculated Tier 2 PCL	
Calculated Tier 3 PCL	
Groundwater Issues	
Conducted aquifer test, classified Class 3 groundwater, or determined non-groundwater bearing unit (saturated soil)	

¹ Prior approval by Executive Director is required.

Section 1 Property Information

Use this section to describe the environmental setting, the geology/hydrogeology of the area, general operational history for the property, the affected property, and sources of releases.

Section 1.1 Physical Location

Property Location and Land Use

The site is the location of the former F.J. Doyle Transformer Salvage and Recycling facility. The property is located at 905 N. Poplar Street and consists of two lots of land. The property (total of 0.344 acre) is bounded by E. Cottonwood Street to the north, N. Poplar Street to the east, a single-family residence to the south, and a vacant lot to the west in the city of Leonard in Fannin County, Texas, 75452. The property is abutted by vacant and single family residential properties. Leonard High School is located to the east across N. Poplar Street. The latitude of the center of the property is approximately 33° 23' 22.05" N and the longitude is approximately 96° 14' 35.31" W. The legal description of the property is included in Appendix 16.

The site is owned by Mr. Danny Doyle, Ms. Linda Kaylor, and Mr. Garry Doyle, heirs of the late Mr. Frank J. Doyle. Site Photographs are provided in Appendix A, a Site Vicinity Map and the Site Plan is included in the attachments (Figures 1A and 1B).

Topography

Based on Terra-Solve's review of the United States Geological Survey (USGS) 7.5 Minute Topographic Map of the Leonard, Texas Quadrangle (1964) the property is located at an elevation of approximately 735 feet above mean sea level (MSL). The topography of the area is gently rolling to the south toward Arnold Creek. A copy of the topographic map is included in the attachments (Figure 2C).

Terra-Solve reviewed the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), for Fannin County, Texas, Unincorporated Area, Panel Number 480807 0010B, November 8, 1977. Although the city limits of Leonard are excluded from this map, the proximity of the site to the northeast corner of the city allows Terra-Solve to infer that the property is likely located in Zone X, considered outside the 500-year flood zone. This designation is not considered to present an environmental concern to the property. A copy of the FEMA map is located in the attachments.

Weather

In recent years, the area has experienced significant periods of drought, followed by near record rainfalls in 2015. Leaching to lower depth during dry periods and smearing of oil in the subsurface due to fluctuating water table periods is possible. Metals are not particularly mobile vertically (pH dependent), but runoff from contaminated site soils/sediment could impact soil along drainage ditches bordering the site. Average rainfall is approximately 45 inches per year. The effect of these variations and overall lowering on COC transport and distribution depends on the nature of the COC. For LNAPLs, it has the effect of creating a "smear" zone. However, for the COCs at the site (PCBs and metals), drought conditions would not appreciably exacerbate

their effect.

Section 1.2 Affected Property and Sources of Release

History and Operations

Transformer were salvaged, oil was drained, and copper was recovered from the salvaged transformers at the site from 1974 to 1999. Initially oil was used as weed killer on site and distributed to others in the community as weed killer. Later recovered oil was stored in aboveground tanks and drums. The land is improved by two buildings, a 2,190 square-foot shop and a 450 square-foot shed. A portable building and a concrete containment sump with three aboveground storage tanks are also present. The site has subsequently been used as a vehicle repair and tire shop.

During site reconnaissance conducted by Terra-Solve in November of 2009, the following items were observed:

- Terra-Solve observed a solvent parts washer in the warehouse repair area. The warehouse and office storeroom also store various amounts of general cleaning and general maintenance supplies.
- Three aboveground storage tanks (ASTs) are present in a secondary containment basin at the southwest corner of the property. All three were reported to previously have been used to store residual transformer oil during the transformer salvage operations. The three tanks still retain a “No PCB” sticker near their fill pipes. The ASTs are located in a concrete secondary containment basin with a valve for draining the containment after rain events after the operator first examines the water to insure that no sheen or floating oil is present. The containment was over half full of rainwater at the time of the site visit, and significant debris and hydrocarbon sheen on the water was observed. The drain was closed, but was not locked.
- A kerosene-dispensing AST was observed on the north side of the shop building. The AST appeared to be empty, but this could not be confirmed.
- Numerous 55-gallon drums of new/used oil and hydraulic fluid are located in and around the shop and numerous used and emptied drums are stored in and around the secondary containment basin.
- Numerous areas of oil staining were observed on the concrete inside the shop building and staining was observed near the secondary containment basin and hydrocarbon sheens were observed in the parking lot.
- One pole-mounted transformer is located across N. Poplar Street east of the shop building, and four other pole-mounted transformers are located across N. Poplar Street from the northeast corner of the site. One old transformer from the salvage business is still located inside the shop building. The active units are owned and serviced by Texas New Mexico Power Company (TNMP) and one of the four is considered to possibly contain PCBs.
- The remaining transformer inside the shop at the site has a “No PCBs” sticker and is left over from the transformer salvage operations at the site.

- Terra-Solve observed numerous unidentified containers on the property, mostly inside and near the shop building and on-site trash cans for authorized disposal. However, a large amount of debris and parts are stored on site.

As stated earlier, the future planned use of the site is for a parking lot for Leonard ISD.

Project Overview

This site is located adjacent to a high school, a school-owned daycare, and several residences. Investigation of the site began in 1990 by both EPA and TCEQ contractors, and samples collected indicated elevated levels of PCBs on the site and on some adjacent properties, yet no cleanup has ever been conducted. Please see the attached comprehensive chronology of the case and a figure showing the previous sampling points and their PCB concentrations.

CHRONOLOGY OF EVENTS

FORMER F.J. DOYLE SALVAGE TRANSFORMERS

Personal Address / Ex. 6

LEONARD, FANNIN COUNTY, TEXAS

EPA CERCLIS NO. TXD980865109 / TCEQ SWR 80951

TERRA-SOLVE PROJECT NO. 09724

DATE

ACTIVITY

1974-1989

1974	Mr. Frank Doyle began operations at the site for reclamation of electrical transformers. The wiring and scrap metal were recycled and the residual oil was used for weed killer both on site and was distributed to others within the City of Leonard. [Note that Terra-Solve was informed by the owner the site began operations in 1976].
1976	Mr. Doyle indicated that after this date, no transformers containing PCBs were accepted at the facility.
01/21/88	Mr. Doyle began application to the Texas Air Control Board (TACB) for a special air operating permit to allow for operation of a heat cleaning unit at the site.
03/22/88	A public hearing was held on the above air permit application.
06/27/88	TACB issued an Agreement and Stipulation of Facts in lieu of the hearing on June 28, 1988.
07/15/88	TACB issued an order so the permit could not later be challenged by its opponents.
08/23/88	TACB issued the permit
04/22/89	Mr. Doyle applied for the air operating permit

1990

07/20/90	EPA conducted a PCB Inspection at the site. <i>No record of this work has been located by subsequent EPA contractors even as early as May 1997.</i>
10/12/90	Ecology & Environment Technical Assistance Team (TAT), an EPA contractor, conducted a Site Assessment sampling investigation. <i>No record of this work has been located by subsequent EPA contractors even as early as May 1997.</i>

1991 - 1992

04/05/91	Texas Air Control Board (TACB) issued an air permit to allow for operation of a combustion unit at the site.
04/19/91	Ecology & Environment TAT, an EPA contractor, conducted another Site Assessment sampling investigation. <i>No record of this work has been located by subsequent EPA contractors even as early as May 1997.</i>

1993-1994

- 1993 Mr. Frank Doyle registered the site with TCEQ for various non-hazardous waste disposal for non-PCB oil, ash residue, plant refuse, various storage containers, and a Dumpster.
- 09/07/94 EPA conducted another **PCB Inspection** at the site. *No record of this work has been located by subsequent EPA contractors even as early as May 1997.*
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1995-1996

- 05/23-24/95 Worldwide Reclamation, a Doyle contractor, under supervision of EPA, conducted surface and subsurface **soil sampling**. *No record of this work has been located by subsequent EPA contractors even as early as May 1997.*
- 07/10-12/95 Ecology and Environment TAT, an EPA contractor, conducted a **Site Assessment (SA)** sampling investigation. A total of 68 samples were collected from the site, the alleyway, and the neighboring residences to the south, west, and east. Elevated levels of PCBs were found both on- and off-site. On-site levels ranged from 50.9 ppm to 2,730 ppm. Alleyway levels ranged from 5.7 ppm to 857 ppm while off-site residence levels ranged from 10.44 ppm to 37.7 ppm
- 07/95 Site was entered in CERCLIS database.
- 08/31/95 Ecology and Environment, EPA TAT, issued a **Site Assessment (SA) Report** recounting the above findings and requested a meeting with Mr. Frank Doyle at their offices no later than 09/15/95 to discuss *"removing and disposing of this contamination in an expeditious manner."*
- 10/4/95 Mr. Doyle met with three EPA officials as requested above. The contents of this meeting are unknown. However, files indicate calculations regarding the cubic yardage of affected materials were made by hand; these calculations show 94.21 cubic yards of on-site soil and 86.98 cubic yards of off-site soil for a total of 181.19 cubic yards would be needed to be removed presumably to meet the above requirements.
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1997

- 01/97 Frank Doyle retired and Gary Doyle, his son, became the operator of the site.
- 05/20/97 Fluor Daniel, EPA TAT, conducted a site reconnaissance. EPA issued its **Preliminary Assessment Report (PA)** later that month. This report set that groundwater and soil exposure pathways were the only exposure pathways of concern.
- 07/21/97 EPA Screening Site Inspection (SSI) was approved to evaluate these pathways.
- 12/18/97 TCEQ issued a **Screening Site Inspection (SSI) Work Plan** to allow for further evaluation of the site using the above pathways of concern.
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1998 - 1999

- 01/13-14/98 TCEQ personnel conducted SSI work with sampling of city water supply wells and collection of on- and off-site soil samples. The groundwater samples did not contain metals or PCBs. Analysis of soil samples from 17 locations indicated that

moderate levels of copper were detected at two on-site sample locations. PCBs were found on site and along drainage ditches away from the site.

09/98 TCEQ issued **SSI Report** on the above findings.

08/99 The site ceased operations.

2000-2009

06/29/00 The Texas Department of Health (TDH), under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR), issued a **Health Consultation Report** which recommended that further delineation of the extent of PCB-affected soil be conducted, or that the soil be removed.

2001 Based on the above, the ATSDR chose not to enter the site into National Priorities List (NPL) for superfund sites.

07/14/06 TCEQ issued Unit Closure Request Letter to Mr. Frank J. Doyle.

10/23/06 Danny Doyle responded to the above letter noting the passing of his father earlier that year and requesting clarification on what TCEQ was specifically requesting.

01/26/07 TCEQ responded to the above letter directing that a closure report for the waste management units (WMUs) be submitted and that an **Affected Property Assessment Report (APAR)** be completed.

02/09/07 Mr. Danny Doyle emailed a response to the above letter.

09/05/08 TCEQ issued Second Request Letter reiterating the 01/26/07 letter requirements above.

08/10/09 TCEQ created a Case File Memorandum which noted that due to the lack of response to the above letters, the case was being considered for Notice of Violation (NOV) and that the 3rd letter would be the NOV.

08/24/09 Mr. Danny Doyle emailed again to TCEQ regarding the above letter in anticipation of a potential sale of the property.

09/11/09 TCEQ responded to the above email with a new point of contact, Mr. Pindy Lall.

11/05/09	A client contracted with Terra-Solve to conduct a Phase I ESA of the site.
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11/20/09 Terra-Solve conducted site reconnaissance for the Phase I ESA and met with Mr. Gary Doyle at the site.

11/30/09 Terra-Solve issued Freedom of Information Act (FOIA) request to EPA.

12/04/09 EPA issued response letter to the above FOIA request and Terra-Solve issued the Phase I ESA Report to the client noting this response.

12/15/09 EPA requested an extension in response time to 12/30/10.

2010 - 2013

01/08/10 The client faxed additional information from Mr. Doyle to Terra-Solve. This information consisted of the items above with asterisks (*) next to the dates. Terra-Solve contacted Mr. Pindy Lall of TCEQ, the latest point of contact, and he requested a few days to familiarize himself with the case file.

01/19/10 Mr. Pindy Lall of TCEQ contacted Terra-Solve to discuss the case. He indicated that the items requested in the 01/26/07 letter (WMU closure reports and APAR investigation) are still required to complete work on the site.

01/30/10 Terra-Solve received a CD-ROM from EPA with the various reports referred to in the above entries and assembled this comprehensive chronology of site events.

02/03/10 Terra-Solve submitted a proposal to the client to arrange for and attend a meeting with TCEQ to discuss

02/08/10 Terra-Solve received a copy of the Central File Registry records from TCEQ and updated this chronology.

03/22/10 Terra-Solve received authorization to send the above information to TCEQ from the client and its attorney, Abernathy Roeder.

04/14/10 Terra-Solve submitted this information to Mr. Pindy Lall of TCEQ after several weeks of attempted contacts. Mr. Lall later contacted Terra-Solve regarding the above email submissions of EPA documents and directed Terra-Solve to submit a formal letter requesting review of this information.

04/15/10 Terra-Solve submitted the above-requested letter.

06/18/10 TCEQ issued a letter to Terra-Solve which outlined a “path to closure” for the site. Specifically, the letter directed the following:

- (1) Surface soils be delineated horizontally to 1.1 ppm PCBs and copper and hexachlorobenzene to their Risk-Based levels;
- (2) Vertical soil delineation to method quantitation limits (MQLs) or collect groundwater samples, in which case the entire soil column is assumed to be contaminated;
- (3) If the site enters the Voluntary Cleanup Program (VCP), a groundwater sample will be required;
- (4) If the entire soil column is assumed to be contaminated, a control such as a parking lot that serves as impervious cover may be implemented to prevent exposure, but such a measure would require maintenance to ensure integrity of the lot, and any uncovered areas would have to be removed, decontaminated, and/or otherwise controlled; and
- (5) Demonstration that the drainage ditches are not impacting surface water will be needed.

2014

04/24/14 Terra-Solve contacted by Abernathy Roeder regarding a possible sale of the subject property and asked to facilitate a meeting between all regulatory parties.

06/26/14 Terra-Solve and Abernathy Roeder met with Mr. James Sales of EPA Region VI at his office and also teleconferenced in Mr. Pindy Lall of TCEQ.

08/11/14 Terra-Solve and Abernathy Roeder met with other interested parties at the site to go over probably boring and well locations. It was determined that if the likely amount of agency-directed assessment and analysis was going to ultimately be required, the cost of such work would likely make the project untenable based on the value of the property. It was agreed that Terra-Solve would contact Pindy Lall to discuss these concerns.

08/13/14 After receiving non-deliverable replies to emails to Pindy Lall, Terra-Solve learned that Mr. Lall left the agency a few days previously. Terra-Solve attempted to find who the new coordinator is by telephone and in person on 08/14/14.

08/22/14 Terra-Solve submitted a letter to Mr. Richard Scharlach of TCEQ recapping the recent (2014) events and requesting a new case coordinator be assigned.

08/25/14 TCEQ assigned a new coordinator, Mr. Rodney Bryant.

09/02/14 TCEQ assigned a different coordinator, Ms. Eleanor Wehner, PG. Terra-Solve conferred with Ms. Wehner and wrote an update letter dated 09/10/14 which gave some hope for a reduced sampling scheme, particularly if the site did NOT go into the VCP. She did note, however, that a Drinking Water Survey was needed.

09/12/14 Terra-Solve conferred with Ms. Stephanie Kirschner of TCEQ regarding the availability of brownfields funds for the site. As the site is being contemplated for purchase by a non-profit group, these monies are available. A letter providing this information was submitted to the parties on 09/15/14 and a proposal for completion of the forms was submitted on 09/16/14.

10/21/14 Terra-Solve was engaged to complete the Brownfields Site Assessment (BSA) application.

10/23/14 Terra-Solve submitted the BSA application to Abernathy Roeder and the client.

2015

04/21/15 Terra-Solve contacted by Citizen Name / Ex. 6 regarding redevelopment of the site. Terra-Solve confirmed with Leonard ISD that no conflict of interest exists.

04/24/15 Terra-Solve spoke with Ms. Wehner who confirmed that she sent a letter to Mr. Doyle on 03/30/15 directing that the APAR and WMU Closure be conducted forthwith or that enforcement procedures would begin.

04/27/15 Terra-Solve met with Citizen Name / Ex. 6 to discuss the site.

Section 1.3 Geology/Hydrogeology

According to the *Geologic Atlas of Texas, Sherman Sheet* (1967, revised 1991) the property is located on Upper Cretaceous-age Gober Chalk. This formation is characterized by bluish-gray chalk with clay that weathers white and is brittle. This formation is up to 400 feet thick but is thinner in the east.

The *Soil Survey of Fannin County, Texas* (NRCS on line data, 2001) indicates that the on-site soils are classified as Fairlie-Dalco complex, 1-3 percent slopes. These soils consist of deep, moderately well drained soils. The typical soil profile consists of dark-gray to black silty clay loam to a depth of 24 inches underlain to a depth of 35 inches by dark gray silty clay. From 35-54 inches black clay is present overlying white platy chalk of the Austin Chalk Formation/Gober Chalk.

Records of the previous assessments conducted by the TCEQ and EPA have been lost to time. A subsurface soil investigation would be needed to verify actual soil types and conditions. Such an evaluation was beyond the scope of this assessment.

As interpreted from the USGS topographic map, local shallow groundwater in the property area is anticipated to be between 10 feet and 20 feet below ground surface. Groundwater flow direction is likely generally south to southwestwardly toward Arnold Creek. Therefore, in assessing potential external environmental impact, properties located north to northeast of the property are of primary concern due to their inferred up gradient locations. However, actual groundwater gradient is often locally influenced by factors such as underground structures, seasonal fluctuations, soil and bedrock geology, production wells, and other factors beyond the scope of this study.

Based on Terra-Solve's review of the Geological Atlas of Texas, Sherman Sheet (1967, revised 1991), and Ground-Water Quality of Texas (1989), the property is underlain by the Trinity major aquifer and Woodbine minor aquifer. The upper Woodbine could be a minor source of water at a depth of 100-200 feet in its lower, more sandy sections. The Trinity Aquifer consists of the early Cretaceous age Paluxy, Glen Rose, and Twin Mountains-Travis Peak formations. Extensive historical development of the Trinity Aquifer in the Dallas-Fort Worth region has caused the water level to drop as much as 550 feet. Since the mid-1970s, many public water supply wells have been abandoned, and surface water is currently the primary water source for the area. However, the wells in Leonard are still in use.

The State Database of Well Information (SDWI) of the Texas Water Development Board database (Figure 2C) indicates that there is one registered water well within 0.5 miles of the property. This one well is an active public supply well, City Well #1, installed in 1957 in the Woodbine Formation and is 1,690 feet deep. This well is the primary source of drinking water for the City of Leonard (Appendix 13, Photograph 8).

Estimated groundwater levels and/or flow directions may vary due to seasonal fluctuations in precipitation, local usage demands, geology, underground structures, or dewatering operations, and can be more accurately determined through the installation of groundwater monitoring wells.

Table 1A - Sources of Release

List the sources (for example: landfill, tank, impoundment) being addressed under this assessment which are contributing COCs to each affected property. Use the inputs from the list provided below to complete Table 1A. For each source, provide the type of source, applicable NOR unit or SWMU numbers, substances of potential concern, the size of the source (capacity, area, or volume as applicable), and specify the status of the release source. Indicate whether a release from the source has been confirmed, provide the method of release discovery, and the date the release was discovered. Include the date if the status is “closed.”

Inputs list for Table 1A (do not include this list in the report)

Column 1	Column 2	Column 3	Column 4
Types of Potential Sources	Substances of Potential Concern	Status of Source	Method of Release Discovery
Container	Acid solution	Active	Site assessment
Container storage area	Adhesives/epoxy	Inactive	Spill incident
Landfills	Caustic solution	Abandoned	NAPL discovery
Piping/distribution system	Dioxins/furans	Closed - specify date closed	Water well impact
Spills	Explosives	Other (specify)	Vapor impact
Sump	Fertilizer		Surface water/sediment impact
Surface impoundments/ponds/lagoons	Halogenated hydrocarbons		Release detection equipment
Tanks	Lacquer/varnish		Other (specify)
Wash/repair areas	Metals		
Waste piles	Paint/ink/dyes		
Waste treatment unit	Paint thinner		
Waste water treatment unit	PCBs		
Other (specify)	Pesticide (herbicide, insecticide)		
	Petroleum Hydrocarbons (specify): gasoline, aviation gas, jet fuel (type), diesel, lube oil, hydraulic oil, used oil, etc.		
	Radionuclides		
	Wood preservatives		
	Other (specify)		

Table 1A. Sources of Release (see input values on preceding page)

Affected property name/number ¹	Name of potential source ² (supplied by the person)	Type of potential source (select from Column 1 on Inputs list)	NOR unit or SWMU number, if applicable	Substances of potential concern (select from Column 2 on Inputs list)	Size of source (capacity, area, or volume)	Status of source (select from Column 3 on Inputs list)		Was a release from this source confirmed? (if yes, indicate the discovery method from Column 4 on Inputs list, and date release was discovered)			
						Status ³ :	If closed or other, list date closed or explain:	No	Yes	Discovery method	Date
Site	Transformers	Transformer	001, 002, & 003	Oil, PCBs, Metals	Unknown	Abandoned			X	Samples	1990s
Off Site	Transformers	Transformer	001, 002, & 003	Oil, PCBs, Metals	Unknown	Abandoned			X	Samples	1990s
Site	ASTs, Drums	Transformer Oil	001, 002, & 003	Oil, PCBs, Metals	Unknown	Unknown			X	Samples	1990s
Site	ASTs, Drums	Car maintenance and repair activities	001, 002, & 003	Petroleum hydrocarbons, metals, solvents	Unknown	Unknown		X			
Site	Dumpster	Plant Trash	003	Unknown	4 yds.	Unknown		X			
Off Site	ASTs, Drums	Car maintenance and repair activities	001, 002, & 003	Petroleum hydrocarbons, metals, solvents	Unknown	Unknown		X			

SWMU:

001: Various storage tanks- one 375-gallon AST, two 500-gallon ASTs, and one 55-gallon drum on the concrete pad.

002: High temperature oven to burn varnish off copper.

003: Dumpster, 4 yds. for accumulation of plant trash.

¹ The name or number is an identification of the affected property assigned by the person. Continue using the name or number identification throughout this report and all other correspondence on the affected property.

² The potential source is the source of the release. The person determines the name given to the potential source. Examples: northwest tank farm, Main Street landfill, etc.

³ Specify whether the source status is active, inactive, abandoned, closed, or specify another status as appropriate.

Table 1B - Potential Off-Site Sources

Table 1B. Potential Off-Site Sources

Affected property name/number	Off-site facility/site name	Physical address	Regulatory ID number	Type of operation/business	Years of operation (if known)	COCs
none						

Attached:

Figure 1A - On-Site Property Map

Included in the attachments.

Figure 1B - Affected Property Map

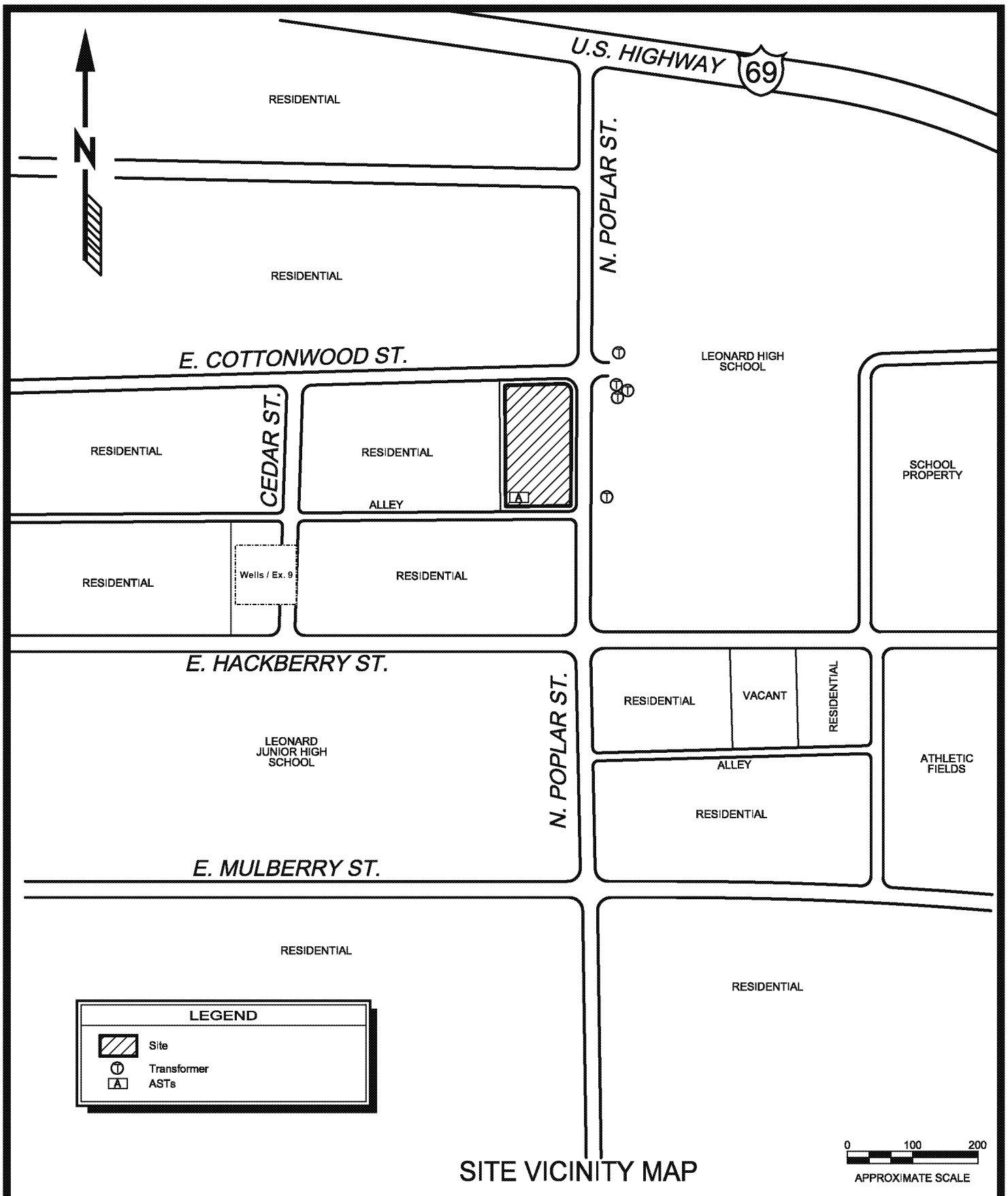
Included in the attachments.

Figure 1C - Regional Geologic Map

Included in the attachments.

Figure 1D - Regional Geologic Cross Section(s)

Included in the attachments.



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3216 COMMANDER DRIVE, SUITE 103
CARROLLTON, TX 75006-2518
PHONE (972) 267-1900
FAX (972) 267-1902
RCAS NO. 00530

TWO LOTS OF IMPROVED LAND

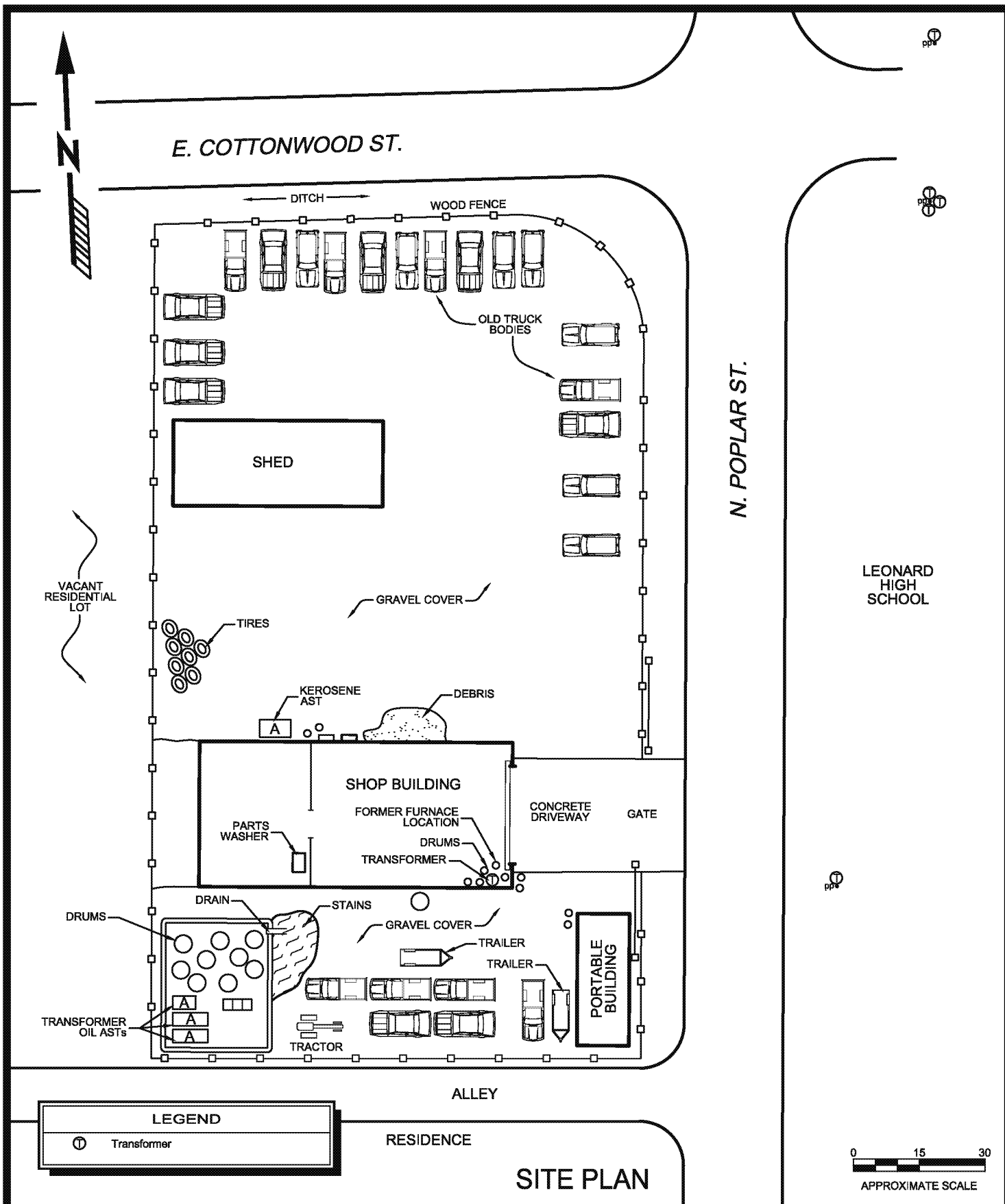
APPROXIMATELY 0.344 ACRES
905 N. POPLAR STREET
LEONARD, FANNIN COUNTY, TEXAS

DATE:
NOV. 2009

PROJECT NO.:
09724

SCALE:
SEE ABOVE

FIGURE NO.:
1 A



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DATE:
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PROJECT NO.:
 09724

SCALE:
 SEE ABOVE
FIGURE NO.:
 1B

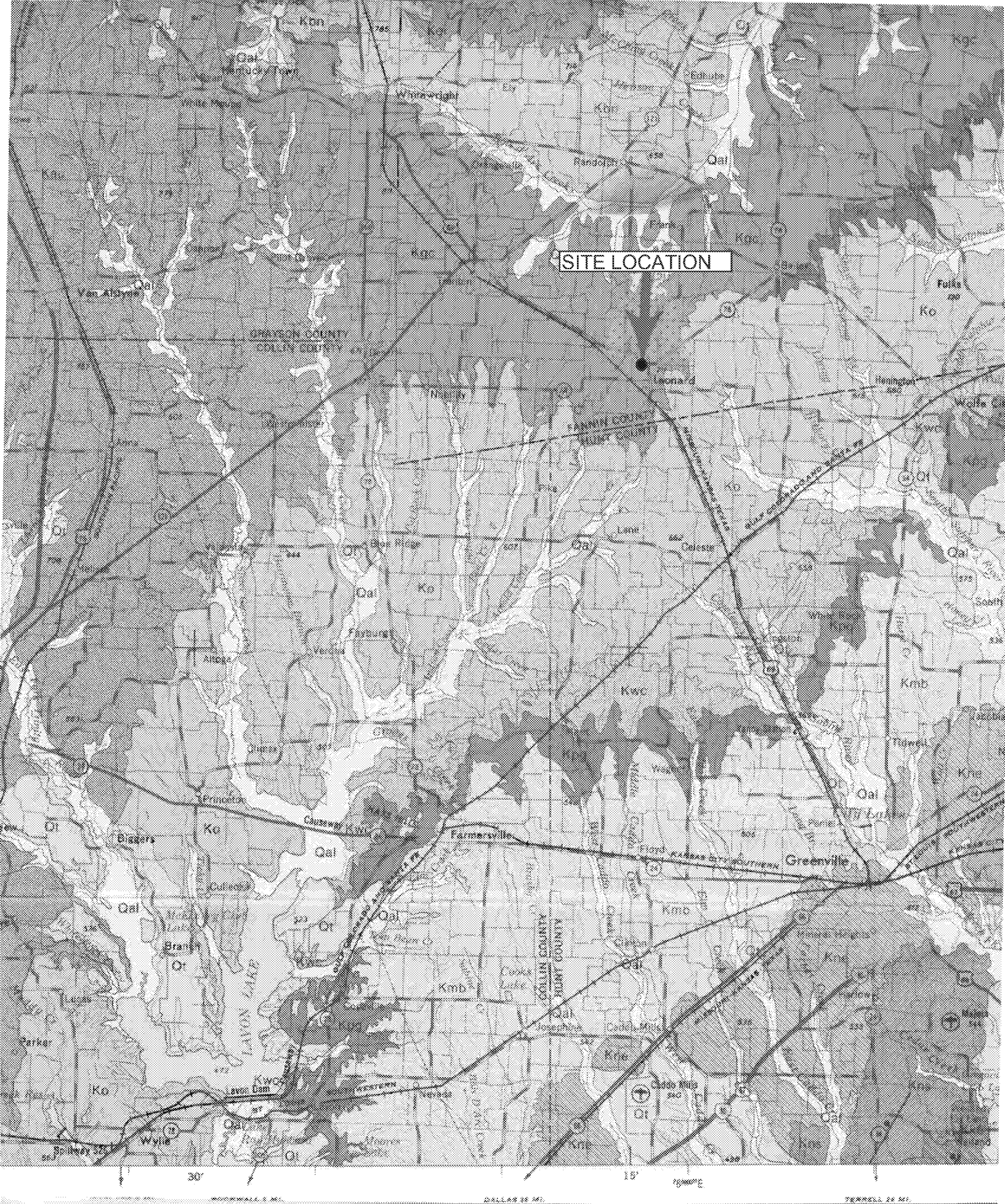


Figure 1C - Regional Geologic Map
Geological Atlas of Texas, Sherman Sheet (1967, revised 1991)

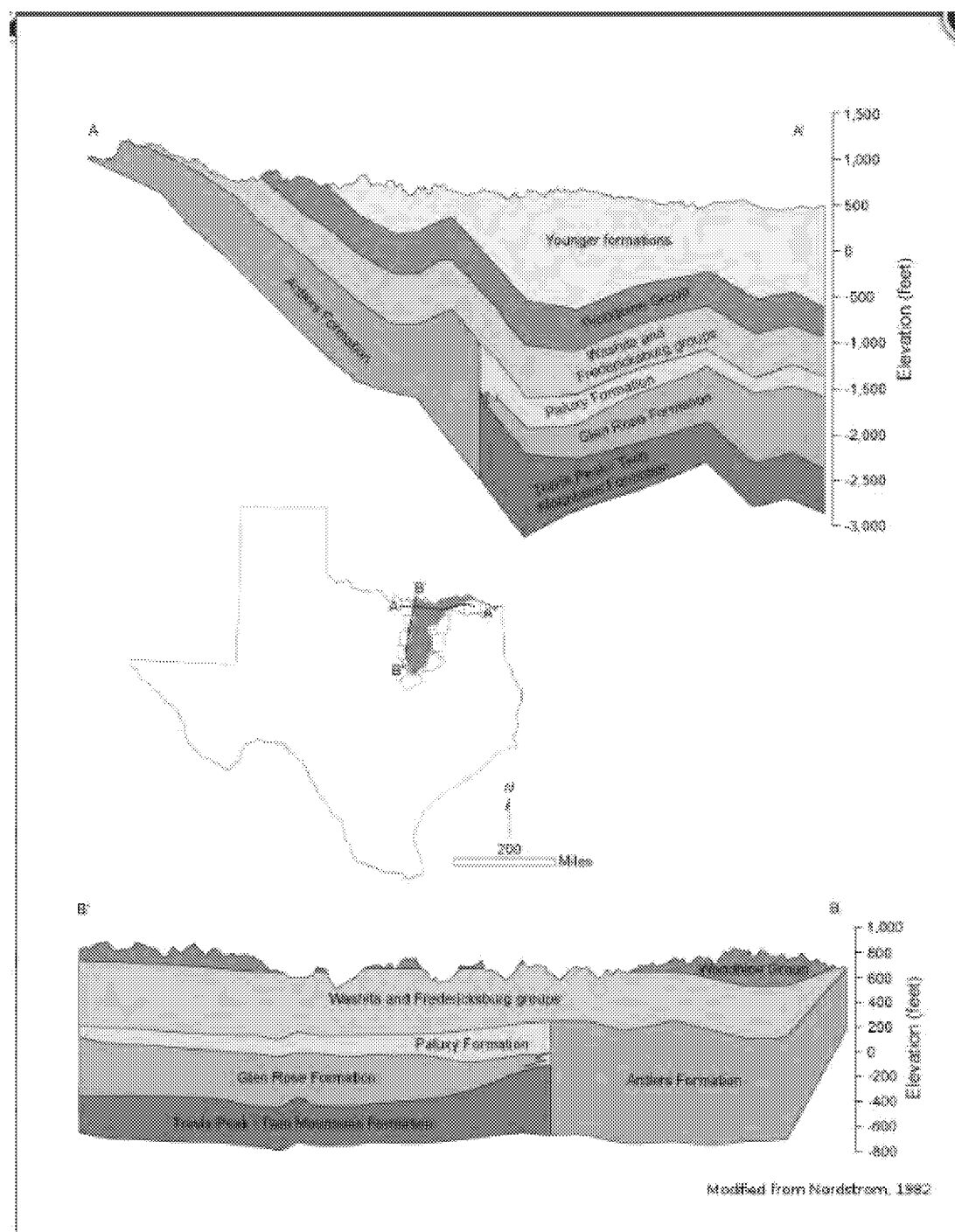


Figure 1D - Regional Geologic Cross Section

<https://www.twdb.texas.gov/groundwater/aquifer/minors/woodbine.asp>

Section 2 Exposure Pathways and Groundwater Resource Classification

Section 2.1 Source(s) of Potable Water for On-Site Property and Affected Off-Site Properties

The source(s) of potable water for the real property within the affected property and presumable all the vicinity, are municipal public supply water wells. The supplier is the City of Leonard, the owner of the several wells throughout the city which are used to supply city residences and businesses. The nearest well, No. 18-393701, is located approximately 370 feet southwest of the affected property. This well produces from the Woodbine Formation and is 1,690 feet deep. Given the depth of this well, it is unlikely that it would be impacted from affected shallow groundwater, if present.

No field walking survey has been performed, but it is likely that all real properties within the 500-foot field receptor survey radius are connected to the public water supply.

It is unknown if the City of Leonard has any ordinances or deed restrictions applicable to the affected property that prevent or restrict the installation of water wells.

Section 2.2 Field Receptor Survey

No 500-ft field door-to-door walking receptor survey has been conducted. As part of a Phase I ESA, site reconnaissance was performed by Terra-Solve on November 20, 2009, a limited “drive-by” survey of surrounding properties was conducted. The property (total of 0.344 acre) is bounded by E. Cottonwood Street to the north, N. Poplar Street to the east, a single-family residence to the south, and a vacant lot to the west in the city of Leonard in Fannin County, Texas, 75452. The property is abutted by vacant and single family residential properties. Leonard High School is located to the east across N. Poplar Street.

Section 2.3 Records Survey

As part of a Phase I ESA conducted in 2009, Terra-Solve requested a survey of records on receptors available within one-half mile radius of the affected property, including both on-site and off-site properties. This information, gathered by GeoSearch, Inc., of Austin, Texas, researched the databases of the Texas Water Development Board (TWDB), and the Texas Commission on Environmental Quality (TCEQ). Copies of the records survey results are included in Appendix 5; the list of sources of information used are included in Appendix 16.

Section 2.4 Receptor Survey Results

A single family residences is located north across E. Cottonwood Street. A vacant lot with single a family residence beyond abuts the site on the west side. An alley with a single family residence and a Leonard ISD daycare facility beyond is located south of the site. Leonard High School is located to the east across N. Poplar Street.

The general land use in the area is primarily residential. The site is located on a topographic high and the immediate site vicinity slopes away in all directions. Based on Terra-Solve's review of the United States Geological Survey (USGS) 7.5 Minute Topographic Map of the Leonard, Texas Quadrangle (1964) the property is located at an elevation of approximately 735 feet above mean sea level (MSL). The topography of the area is gently rolling to the south toward Arnold Creek. A copy of the topographic map is included in Appendix H.

One water well was found in the 0.5-mile radius search. No intermittent or perennial surface water bodies are present in the immediate area; drainage ditches are located along E. Cottonwood Street on the north side of the site and along E. Poplar Street on the east side of the site. The nearest surface water body, Arnold Creek, is located approximately one mile south-southwest of the site.

One water well was noted in the database search within the 0.5-mile radius search of the site. Based on Terra-Solve's review of the Geological Atlas of Texas, Sherman Sheet (1967, revised 1991), and Ground-Water Quality of Texas (1989), the property is underlain by the Trinity major aquifer and Woodbine minor aquifer. The upper Woodbine could be a minor source of water at a depth of 100-200 feet in its lower, more sandy sections. The Trinity Aquifer consists of the early Cretaceous age Paluxy, Glen Rose, and Twin Mountains-Travis Peak formations. Extensive historical development of the Trinity Aquifer in the Dallas-Fort Worth region has caused the water level to drop as much as 550 feet. Since the mid-1970s, many public water supply wells have been abandoned, and surface water is currently the primary water source for the area. However, the wells in Leonard are still in use. The State Database of Well Information (SDWI) of the Texas Water Development Board database (included in Appendix K) indicates that there is one registered water well within 0.5 miles of the property. This one well is an active public supply well, City Well #1, installed in 1957 in the Woodbine Formation and is 1,690 feet deep. This well is the primary source of drinking water for the City of Leonard. Given the depth of this well, it is unlikely that it would be impacted from affected shallow groundwater, if present.

Section 2.5 Groundwater Resource Classification

Groundwater beneath the site has not been assessed.

Section 2.6 Exposure Pathways

The previous soil samples collected by EPA and TCEQ in the early 1990s identified PCBs, copper, and hexachlorobenzene in excess of the current Tier I Residential 0.5-acre source area PCLs. These levels were identified on the site, on the residential vacant lot to the west, in the alley, and on residential properties to the south.

The primary exposure pathways for PCBs is through contact with soil or sediment. According to the EPA, PCBs are very persistent, hydrophobic, and generally do not migrate. However, there are some site characteristics that may have a bearing on the potential of PCBs to migrate. For example, PCBs in oil will be mobile if the oil itself is present in a volume large enough to physically move a significant distance from the source. Soil or sediment characteristics that affect the mobility of the PCBs include soil density, particle size distribution, moisture content, and permeability. Additionally, meteorological and chemical characteristics such as amount of precipitation, organic carbon content, and the presence of organic colloids also affect PCB

mobility.

Because of the stability of PCBs, many exposure routes must be considered: dermal exposure; ingestion of PCB-contaminated soil, water, and food; and inhalation of ambient air contaminated with PCBs. PCBs have a high potential for bioaccumulation, which is an important factor to consider due to their ability to accumulate in aquatic environments such as lakes, rivers, and harbors. Although not very common, volatilization and other transport mechanisms may remove PCBs from the contaminated soil or sediment or entrain them into the air. Remedies involving excavation may create short-term exposures to workers and surrounding communities from inhalation of dust emissions (EPA/540/S-93/506, October 1993: *Technology Alternatives for the Remediation of PCB-Contaminated Soil and Sediment*). PCBs are recognized as a carcinogen.

Generally, copper is not mobile in soils. It is attracted to soil organic matter and clay minerals. In general, maximum retention of cationic metals occurs at $\text{pH} > 7$ and maximum retention of anionic metals occurs at $\text{pH} < 7$. Because of the complexity of the soil-waste system, with its myriad of surface types and solution composition, such a generalization may not hold true. For example, cationic metal mobility has been observed to increase with increasing pH due to the formation of metal complexes with dissolved organic matter. Copper is retained in soils through exchange and specific adsorption mechanisms. At concentrations typically found in native soils, Cu precipitates are unstable. This may not be the case in waste-soil systems and precipitation may be an important mechanism of retention. It is suggested that a clay mineral exchange phase may serve as a sink for Cu in noncalcareous soils. In calcareous soils, specific adsorption of Cu onto CaCO_3 surfaces may control Cu concentration in solution. Copper is adsorbed to a greater extent by soils and soil constituents than the other metals studied, with the exception of Pb. Copper, however, has a high affinity for soluble organic ligands and the formation of these complexes may greatly increase Cu mobility in soils (EPA/540/S-92/018, October 1992: *Behavior of Metals in Soils*).

Hexachlorobenzene (HCB) is classified as a carcinogen. HCB is a highly persistent environmental toxin that was synthesized and used from the 1940s to the late 1970s as a fungicide on grain seeds such as wheat. The use of chlorinated organic compounds in industrial chlorination processes is also known to inadvertently generate HCB wastes.

HCB is considered a probable human carcinogen and is toxic by all routes of exposure. The general population appears to be exposed to very low concentrations of HCB, primarily through ingestion of meat, dairy products, poultry, and fish. Ingestion of HCB-contaminated fish is potentially the most significant source of exposure. HCB bioaccumulates in fish, marine animals, birds, lichens, and their predators. HCB has been found in fish and wildlife throughout the U.S., though the Great Lakes and Gulf coast are areas of particularly high contamination.

HCB is a highly persistent environmental toxin that degrades slowly in air and remains in the atmosphere through long range transport. Current research suggests that HCB has a half-life from 2.7 to 6 years in water and in the atmosphere, and may have a half-life of more than 6 years in soil. In water, HCB binds to sediments and suspended matter. In soil, HCB binds strongly and generally does not leach to water. Transport to ground water is slow, but varies with the organic makeup of the soil, as HCB tends to bind more strongly to soils with high organic content. Co-solvents in active/inactive sites can mobilize HCB (The USEPA Persistent, Bioaccumulative and Toxic Pollutants (PBT) HCB Workgroup, November 2000: *Draft PBT National Action Plan For Hexachlorobenzene (HCB) for Public Review*).

Transformer salvage operations ceased at the site in August of 1999. Subsequently the site was leased to various tenants that performed vehicle maintenance and operated a tire shop. The site improvements have not changed since transformer salvage ceased. The site remains unpaved with various improvements. The AST bulk oil storage area WMU has reportedly been closed.

Runoff from the property has the potential to affect surface soils and drainage ditches adjacent to the site. The nearest surface water is located approximately one mile from the site and is not expected to be affected by a release from the site, however sediment along the drainage ditches remain a potential source for future surface water impacts, if left unaddressed.

Table 2A - Water Well Summary

Complete this table if water wells are identified in either the 500-ft receptor survey or the one-half mile records survey. Provide the information available on the water wells identified in the survey radius. Include wells found from the sources of information. Highlight the threatened or affected wells.

Table 2A. Water Well Summary

Well no. / designation	Well owner's name of record	Distance from affected property (ft.)	Screened interval/open interval (ft)	Cemented interval (ft)	Completion type	Total depth	Date drilled	Producing formation	Current water use ¹	Current status ²	Data source ³
Downgradient Wells											
City Well #1, 18-39-701	City Of Leonard	370	1523-1673	Unknown	Under-reamed, gravel packed	1,690	1957	Woodbine	PS	Act	TWDB
Cross-gradient Wells											
Upgradient Wells											

¹ Current water use: Dom - domestic; PS - public supply/municipal; Ind - industrial; Comm - commercial; Irr - irrigation; Liv - livestock

² Current status: Act - active; Ab - abandoned/not in use; SB - standby/backup; P&A - plugged and abandoned

³ Indicate the specific primary source of well information.

Table 2B - Affected Water Well Summary

List the threatened or affected water wells from Table 2A in this table. Provide the owner's name, telephone number, property address, and name of tenant or easement holder. Document the sources of information used to obtain this information in Appendix 16.

Table 2B. Threatened and Affected Water Well Summary

Well number/ designation	Current owner and phone number	Property address and/or legal description ¹	Tenants and/or easement holders ²	Samples collected		Do COC concentrations exceed Tier 1 GW ^{GW} GW ^{Ing} PCLs?	
				Yes	No	Yes	No
None known							

¹ Provide the address of the property containing the threatened or affected well. If the property does not have an address or if property plot maps are provided, include the legal description of the property (i.e., lot and block numbers, appraisal district reference numbers, etc.)

² If samples were collected on property not owned by the person and results exceed Tier 1 PCLs, provide the names of tenants and/or easement holders.

Table 2C - Complete or Reasonably Anticipated to be Complete Exposure Pathways

Use this table to indicate the complete or reasonably anticipated to be complete exposure pathways by checking the applicable pathways based on the media affected by COCs and the potential for migration of COCs. The shaded boxes are those pathways considered complete per the TRRP rule. If a shaded box is not checked, explain in Section 2.6 why the pathway is not complete.

Table 2C. Complete or Reasonably Anticipated to be Complete Exposure Pathways

Exposure pathway	Surface soil ¹	Subsurface soil ²	Groundwater	Surface water/ sediment
TotSoilComb ³	X	NA	NA	NA
AirSoilInh-V	NA			
GWSoilIng or GWSoilClass3	X			
GWGWIng or GWGWClass3	NA	NA	UNKNOWN	
AirGWInh-V			UNKNOWN	
SWG				
SedGW				
SWSW or SedSed			NA	X
Other (specify) ⁴				

Surface soil has not been assessed to the residential 0-15 feet interval. Groundwater has not been assessed.

Attached:

Figure 2A - Potential Receptors Map

Figure 2B - Field Survey Photographs

Figure 2C - Water Well Map

Attachment 2A - Tier 1 Ecological Exclusion Criteria Checklist

Complete this checklist for each affected property. Refer to Chapter 307, Texas Surface Water Quality Standards, *Guidance for Conducting Ecological Risk Assessments at Remediation Sites in Texas* (RG-263 revised, and future updates), and *Determining PCLs for Surface Water and Sediment* (RG-366/TRRP-24) for the definition of surface water, surface water types, uses, basin numbers, and state-designated stream segment numbers. The person and the preparer must sign this checklist.

Not enough information is available to complete this section.

Attachment 2B - Tier 1 Ecological Exclusion Criteria Supporting Documentation

As required in the Tier 1 Ecological Exclusion Criteria Checklist, attach a brief statement (not to exceed 1

¹ Residential: soils from 0-15 feet deep, or to bedrock or groundwater-bearing unit if shallower.

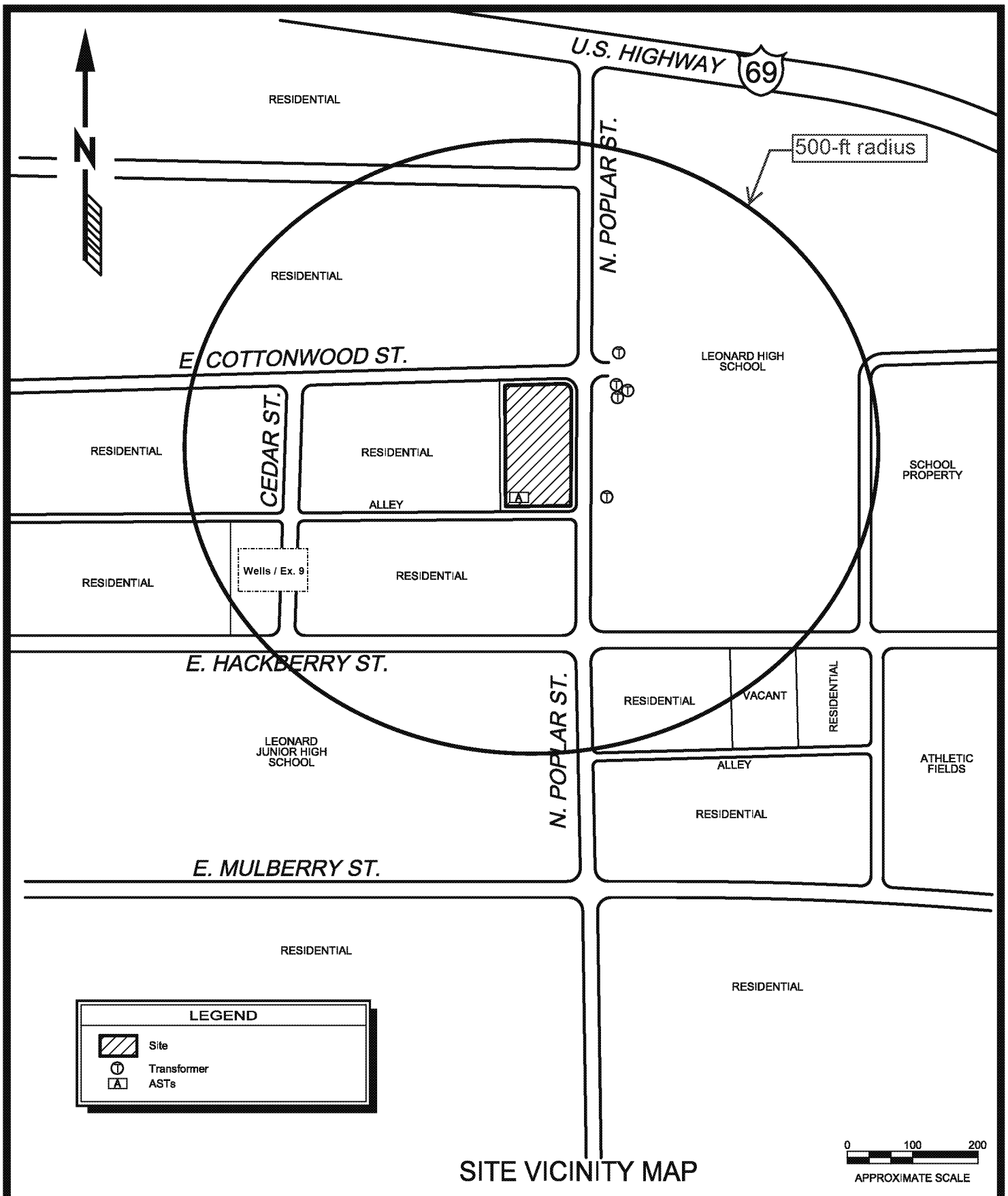
Commercial/industrial: soils from 0-5 feet deep, or to bedrock or groundwater-bearing unit if shallower.

² The vadose zone beneath the surface soil extending to the groundwater-bearing unit, and including unsaturated zones between stratified groundwater-bearing units.

³ Residential: AirSoilInh-VP + SoilSoilIng + SoilSoilDerm + VegSoilIng

Commercial/industrial: AirSoilInh-VP + SoilSoilIng + SoilSoilDerm

⁴ If other exposure pathways are identified here, include those pathways in the derivation of assessment levels and evaluation of critical PCLs.



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PHONE (972) 267-1900
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RCAS NO. 00530

TWO LOTS OF IMPROVED LAND

APPROXIMATELY 0.344 ACRES
905 N. POPLAR STREET
LEONARD, FANNIN COUNTY, TEXAS

DATE:
NOV. 2009

PROJECT NO.:
09724

SCALE:
SEE ABOVE

FIGURE NO.:
2A



Photograph 1: View looking west of the automobile repair shop building. This building was previously used as the transformer recycling facility.



Photograph 2: View looking south of the west property boundary showing the shed (left) and the vacant lot located west of the site.



Photograph 3: View looking southeast of the portable building and of the exterior of the automobile repair shop.



Photograph 4: View looking northwest the three aboveground storage tanks and multiple 55-gallon drums in and near the spill containment sump.



Photograph 5: View looking west showing the northern property line with E. Cottonwood Street and the residential neighborhood beyond.



Photograph 6: View looking north along N. Poplar Street showing the school buildings east of the site. Also note the one transformed on the power pole in the foreground (#N6497) and in the three in the background (Nos. N23508, N21884, and N21888).



Photograph 7: View looking west of the alleyway south of the site with the residences beyond.



Photograph 8: View looking southeast of City Water Well #1 and its storage tanks located approximately 370 feet from the site



Photograph 9: View inside the shop building showing the parts washer and other chemicals.



Photograph 10: View inside the shop building showing 5-gallon buckets of chemicals and oil, both new and used. Numerous areas of stained concrete are visible in the shop.



Photograph 11: View looking southwest of the drums inside and outside the AST secondary containment basin. Note the drain valve and the stains and hydrocarbon sheen on the standing water.



Photograph 12: View looking southeast the kerosene-dispensing AST, drums, and other debris on the north side of the shop building.



Photograph 13: View inside the shop building of equipment, parts, and new and used oil containers and drums.



Photograph 14: View looking northwest of the rainbow hydrocarbon sheen visible on the concrete driveway near the shop building.

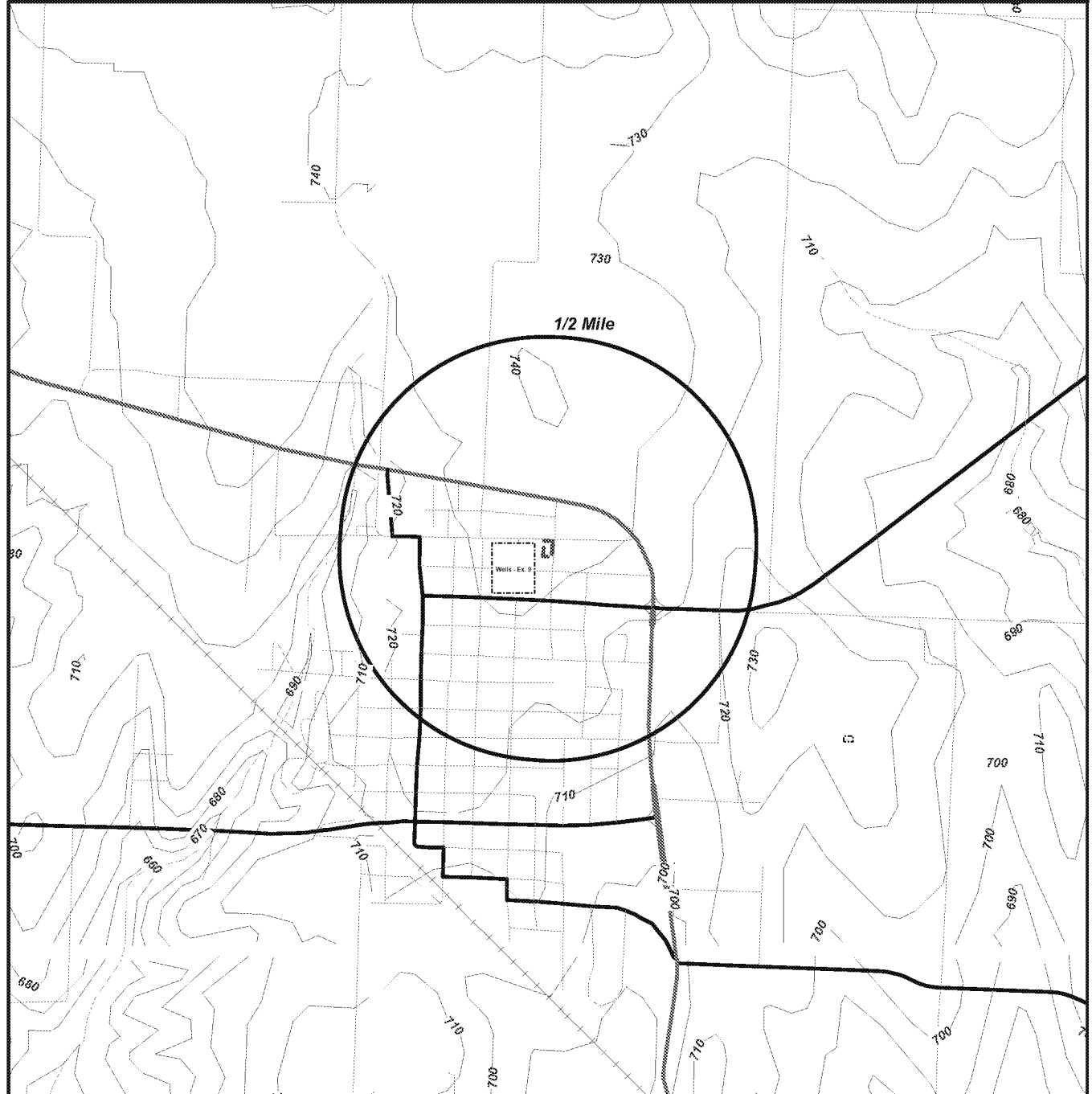


Photograph 15: View inside the shop building showing the leftover transformer from the salvage business. Note the blue “No PCB” sticker on the transformer. This area is where the furnace used for burning the insulation from the transformer was located.



Photograph 16: View looking southwest of the north side of the shop building showing some of the scattered areas of debris and parts.

WATER WELL MAP



Target Property (TP)
TWDB

Two Lots with Improvements
905 N. Poplar
Leonard, Texas
75452

CONTOUR LINES REPRESENTED IN FEET



0' 1000' 2000' 3000'
SCALE: 1" = 2000'

GeoSearch

2705 Bee Caves Rd, Suite 330 - Austin, Texas 78746 - phone: 866-396-0042 - fax: 512-472-9967

REPORT SUMMARY OF LOCATABLE SITES

MAP ID#	DATABASE NAME	SITE ID#	DISTANCE FROM SITE	SITE NAME	ADDRESS	CITY, ZIP CODE	PAGE #
1	TWDB	18-39-701	0.090 SW	CITY OF LEONARD			1



2705 Bee Caves Rd, Suite 330 · Austin, Texas 78746 · phone: 888-396-0042 · fax: 512-472-9967

page) summarizing the information provided in Attachment 2A. Include in this summary sufficient information to verify that the affected property meets or does not meet the exclusion criteria. Also include in this attachment photographs and correspondence with wildlife management agencies used to complete the checklist. Include a topographic map and/or aerial photo to depict the affected property and surrounding area.

Not enough information is available to complete this section.

Attachment 2A. Tier 1 Exclusion Criteria Checklist

PART I. Affected Property Identification and Background Information

1) Provide a description of the specific area of the response action and the nature of the release. Include estimated acreage of the affected property and the facility property, and a description of the type of facility and/or operation associated with the affected property. Also describe the location of the affected property with respect to the facility property boundaries and public roadways.

Attach available USGS topographic maps and/or aerial or other affected property photographs to this form to depict the affected property and surrounding area. Indicate attachments:

☐ Topo map ☐ Aerial photo ☐ Other (specify) _____

2) Identify environmental media known or suspected to contain chemicals of concern (COCs) at the present time. Check all that apply:

Known/Suspected COC Location	Based on sampling data?	
<input type="checkbox"/> Soil <5 ft below ground surface	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Soil >5 ft below ground surface	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Groundwater	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="checkbox"/> Surface Water/Sediments	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Explain (previously submitted information may be referenced):

3) Provide the information below for the nearest surface water body which has become or has the potential to become impacted from migrating COCs via surface water runoff, air deposition, groundwater seepage, etc. Exclude wastewater treatment facilities and stormwater conveyances/impoundments authorized by permit. Also exclude conveyances, decorative ponds, and those portions of process facilities that are:

- Not in contact with surface waters in the State or other surface waters which are ultimately in contact with surface waters in the State; and
- Not consistently or routinely utilized as valuable habitat for natural communities including birds, mammals, reptiles, etc.

The nearest surface water body is _____ feet/miles from the affected property and is named:

The water body is best described as a:

- ☐ freshwater stream:
- ☐ perennial (has water all year)
 - ☐ intermittent (dries up completely for at least 1 week a year)
 - ☐ intermittent with perennial pools
 - ☐ freshwater swamp/marsh/wetland
 - ☐ saltwater or brackish marsh/swamp/wetland
 - ☐ reservoir, lake, or pond; approximate surface acres _____
 - ☐ drainage ditch
 - ☐ tidal stream ☐ bay ☐ estuary
 - ☐ other; specify _____

Is the water body listed as a State classified segment in Appendix C of the current Texas Surface Water Quality Standards; §§307.1 - 307.10?

☐ Yes Segment # _____ Use Classification: _____
☐ No

If the water body is not a State classified segment, identify the first downstream classified segment.

Name: _____

Segment #: _____

Use Classification: _____

As necessary, provide further description of surface waters in the vicinity of the affected property:

PART II. Exclusion Criteria and Supportive Information

Subpart A. Surface Water/Sediment Exposure

1) Regarding the affected property where a response action is being pursued under the TRRP, have COCs migrated and resulted in a release or imminent threat of release to either surface waters or to their associated sediments via surface water runoff, air deposition, groundwater seepage, etc.? Exclude wastewater treatment facilities and stormwater conveyances/impoundments authorized by permit. Also exclude conveyances, decorative ponds, and those portions of process facilities which are:

- a. Not in contact with surface waters in the State or other surface waters which are ultimately in contact with surface waters in the State; and
- b. Not consistently or routinely utilized as valuable habitat for natural communities including birds, mammals, reptiles, etc.

☐ Yes ☐ No

Explain:

If the answer is yes to Subpart A above, the affected property does not meet the exclusion criteria. However, complete the remainder of Part II to determine if there is a complete and/or significant soil exposure pathway, then complete PART III - Qualitative Summary and Certification. If the answer is No, go to Subpart B.

Subpart B. Affected Property Setting

In answering “Yes” to the following question, it is understood that the affected property is not attractive to wildlife or livestock, including threatened or endangered species (i.e., the affected property does not serve as valuable habitat, foraging area, or refuge for ecological communities). (May require consultation with wildlife management agencies.)

- 1) Is the affected property wholly contained within contiguous land characterized by: pavement, buildings, landscaped area, functioning cap, roadways, equipment storage area, manufacturing or process area, other surface cover or structure, or otherwise disturbed ground?

_____ Yes _____ No

Explain:

--

If the answer to Subpart B above is Yes, the affected property meets the exclusion criteria, assuming the answer to Subpart A was No. Skip Subparts C and D and complete PART III - Qualitative Summary and Certification. If the answer to Subpart B above is No, go to Subpart C.

Subpart C. Soil Exposure

- 1) Are COCs which are in the soil of the affected property solely below the first 5 feet beneath ground surface **or** does the affected property have a physical barrier present to prevent exposure of receptors to COCs in surface soil?

_____ Yes _____ No

Explain:

--

If the answer to Subpart C above is Yes, the affected property meets the exclusion criteria, assuming the answer to Subpart A was No. Skip Subpart D and complete PART III - Qualitative Summary and Certification. If the answer to Subpart C above is No, proceed to Subpart D.

Subpart D. *De Minimis* Land Area

In answering “Yes” to the question below, it is understood that all of the following conditions apply:

- The affected property is not known to serve as habitat, foraging area, or refuge to threatened/endangered or otherwise protected species. (Will likely require consultation with wildlife management agencies.)
- Similar but unimpacted habitat exists within a half-mile radius.
- The affected property is not known to be located within one-quarter mile of sensitive environmental areas (e.g., rookeries, wildlife management areas, preserves). (Will likely require consultation with wildlife management agencies.)
- There is no reason to suspect that the COCs associated with the affected property will migrate such that the affected property will become larger than one acre.

- 1) Using human health protective concentration levels as a basis to determine the extent of the COCs, does the affected property consist of one acre or less and does it meet all of the conditions above?

_____ Yes _____ No

Explain how conditions are met/not met:

If the answer to Subpart D above is Yes, then no further ecological evaluation is needed at this affected property, assuming the answer to Subpart A was No. Complete PART III - Qualitative Summary and Certification. If the answer to Subpart D above is No, proceed to Tier 2 or 3 or comparable ERA.

PART III. Qualitative Summary and Certification (complete in all cases.)

Attach a brief statement (not to exceed 1 page) summarizing the information you have provided in this form. This summary should include sufficient information to verify that the affected property meets or does not meet the exclusion criteria. The person should make the initial decision regarding the need for further ecological evaluation (i.e., Tier 2 or 3) based upon the results of this checklist. After review, TCEQ will make a final determination on the need for further assessment. **Note that the person has the continuing obligation to re-enter the ERA process if changing circumstances result in the affected property not meeting the Tier 1 exclusion criteria.**

Completed by _____ (Typed/Printed Name)
_____ (Title)
_____ (Date)

I believe that the information submitted is true, accurate, and complete, to the best of my knowledge.

_____ (Typed/Printed Name of Person)
_____ (Title of Person)
_____ (Signature of Person)
_____ (Date Signed)

Section 3 Assessment Strategy

Use this section to discuss the rationale for the assessment and identify remaining data gaps.

Section 3.1 General Assessment Issues

Environmental Media Assessed

All information provided in this APAR are based on the sampling performed by EPA and TCEQ in the 1990s and on site reconnaissance conducted by Mr. Charles R. Robertson of Terra-Solve, Inc., on November 20, 2009, as part of a Phase I Environmental Site Assessment.

Only soil samples were collected during the 1990s assessment conducted by EPA and TCEQ. As mentioned previously, the complete reports of these activities has been lost and are not available from EPA or TCEQ files. No groundwater assessment has been performed.

Target COCs

As outlined in a meeting with EPA, TCEQ, Terra-Solve, the attorney representing Leonard ISD, and the owner, the following chemicals of concern (COCs) were identified that exceed the current (November 2014) TCEQ Tier I Residential 0.5-acre source area PCLs:

- Polychlorinatedbiphenyls (PCBs);
- Hexachlorobenzene (HCB); and
- Copper.

Also in the meeting it was noted that TCEQ also will require samples to assess impacts to sediment and groundwater. A copy of the letter summarizing the meeting is attached. The TCEQ response letter dated June 18, 2010, outlining the additional requirements is also attached.

Background

Three background metals samples were collected from unaffected areas, upgradient and upwind from the site. The results are given in Table 4D.

Section 3.2 Assessment Strategy

General Assessment Approach

No information is available on the sampling methods, etc. used by EPA and TCEQ, however, TCEQ has agreed that the sample results obtained from the EPA and TCEQ files are acceptable for use in evaluating the site conditions. Refer to the above-mentioned letter summarizing the meeting with all parties.

Assessment Methods

No information is available on the sampling methods, etc. used by EPA and TCEQ, however, TCEQ has agreed that the sample results obtained from the EPA and TCEQ files are acceptable for use in evaluating the site conditions. Refer to the above-mentioned letter summarizing the meeting with all parties.

Table 3A - Underground Utilities

No assessment of underground utilities has been performed. No sanitary sewer service to the site exists, but it is available from the City of Leonard. Potable water to the site is provided by the City of Leonard. Electricity to the site is provided by Texas New Mexico Power Company. Natural gas service to the site is provided by Atmos Energy.

Table 3A. Underground Utilities

Utility type	Construction material	Backfill material	Approx. depth (ft)	Utility company name	Potential migration pathway?		Affected?	
					Yes	No	Yes	No
Water	Unknown	Unknown	?	City of Leonard	X		Unknown	
Electricity	Unknown	Unknown	?	Texas New Mexico Power Company		X	Unknown	
Natural Gas	Unknown	Unknown	?	Atmos Energy	X		Unknown	

Section 4 Soil Assessment

Use this section to discuss the results of the surface and subsurface soil assessment and the nature and extent of NAPL and COCs in soil. For this discussion, the term soil includes the vadose zones, capillary fringe, and saturated zones that are not groundwater-bearing units. Refer to *Affected Property Assessment Requirements* (RG-366/TRRP-12) for guidance on assessment levels and *NAPL Assessment* (RG-366/TRRP-12A) for information on determining the nature and extent of NAPL.

Section 4.1 Derivation of Assessment Levels

The proposed use of the site as a parking lot for the Leonard ISD constitutes a residential use. The surrounding properties within a 500-foot radius of the site are residential use, therefore the proposed assessment level is the TCEQ November 2014 Tier I Residential 0.5-acre source PCLs.

Section 4.2 Nature and Extent of COCs and NAPL in Soil

The previous soil samples collected by EPA and TCEQ in the early 1990s identified PCBs, copper, and hexachlorobenzene in excess of the current Tier I Residential 0.5-acre source area PCLs. These levels were identified on the site, on the residential vacant lot to the west, in the alley, and on residential properties to the south of the site.

A groundwater assessment has not been performed.

Table 4A - Surface Soil Residential Assessment Levels with no Ecological Component

Use this table to summarize the residential assessment level for each COC analyzed in surface soils in areas where human health PCLs apply and to compare the residential assessment level to the higher of the maximum COC concentration or the maximum SQL to determine if the residential assessment level has been exceeded. For each COC, highlight the value that is the residential assessment level and highlight the maximum concentration if it exceeds the residential assessment level. Add columns as necessary to include applicable exposure pathways. If a Tier 2 or Tier 3 ^{GW}Soil PCL was used as the residential assessment level, include supporting documentation in Appendix 9.

Table 4A. Surface Soil Residential Assessment Levels for Human Health Exposure Pathways

COC	Source area size (acres)	TotSoilComb PCL (mg/kg)	GWSoil PCL		MQL (mg/kg)	Back-ground (mg/kg)	Maximum concentration			
			(mg/kg)	Tier			Sample ID	Sample depth	Sample date	Conc (mg/kg)
PCBs (On Site)	0.344	1.1	11	I		NA	SO-18, N. of ASTs	0.5'-1.0'	1990s	2,300
PCBs (Off Site)	0.344	1.1	11	I		NA	SO-14, alley adj. to transformer storage area	0.5'-1.0'	1990s	4,100
HCB (On Site)	0.344	1.1	1.1	I		NA	SO-18, N. of ASTs	0.5-1.0'	1990s	15,000
HCB (Off Site)	0.344	1.1	1.1	I		NA	NA	NA	NA	NA
Cu (On Site)	0.344	1,300	1,000	I		NA	SO-17, transformer off-load area	0.5-1.0'	1990s	279
Cu (Off Site)	0.344	1,300	1,000	I		NA	SO-14, alley s. of site	0.5-1.0'	1990s	1,860
PCBs (Drainage Ditch)	0.344	1.1	11	I		NA	SO-9, (drainage ditch NWC Poplar and Hackberry Streets)	Grab	1990s	3.00
Cu (Drainage Ditch)	0.344	1,300	1,000	I		NA	SO-9, (drainage ditch NWC Poplar and Hackberry Streets)	Grab,	1990s	105
Cu (upgradient)	NA	1,300	1,000			11.6	SO-1, Unaffected area		1990s	NA
Cu (upgradient)	NA	1,300	1,000			20.6	SO-2, Unaffected area		1990s	NA
Cu (upgradient)	NA	1,300	1,000			20.0	SO-3, Unaffected area		1990s	NA

Table 4B - Surface Soil Residential Assessment Levels with Ecological Component

Use this table to summarize the residential assessment level for each COC analyzed in surface soils in areas where human health and ecological concerns apply and to compare the residential assessment level to the maximum COC concentration to determine if the residential assessment level has been exceeded. If a PCL has not been developed under an ecological risk assessment, provide the basis for the value used. Complete this table for each COC analyzed. For each COC, highlight the value that is the residential assessment level and highlight the maximum concentration if it exceeds the assessment level.

Table 4B. Surface Soil Residential Assessment Levels with Ecological Component

COC	Human health PCL ¹ (mg/kg)	Ecological PCL (0 to 0.5 ft)		Ecological PCL (0.5 to 5 ft)		MQL (mg/kg)	Back-ground (mg/kg)	Maximum concentration in areas of ecological concern			
		(mg/kg)	Basis ²	(mg/kg)	Basis ²			Sample ID	Sample depth	Sample date	Conc (mg/kg)

¹ List the lower of ^{Tot}Soil_{Comb} and ^{GW}Soil values from Table 4A.

² Specify the basis of the ecological PCL (benchmark, MQL, background, Tier 2 PCL, or Tier 3 PCL).

TABLE 4D: SOIL DATA SUMMARY
Samples Collected on 07/12/95 (R, A, D, F); 01/13-14/98 (SO)

Sample	Sample Interval	Description	PCBs	VOCs	SVOCs								
R01	6"	Personal Address / Ex. 6 Residence 14' N & 3.5' E of House	27.9	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
R02	6"	Personal Address / Ex. 6 Residence 14' N of House, 22' W of R01	3.75	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
R03	6"	Personal Address / Ex. 6 Residence 14' N of House, 22' W of R02	4.07	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
R04	6"	Personal Address / Ex. 6 Residence 7' N & 3.5' E of House	3.62	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
R05	6"	Personal Address / Ex. 6 Residence 7' N of House, 22' W of R04	1.12	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
R06	6"	Personal Address / Ex. 6 Residence 7' N of House, 22' W of R05	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
R07	6"	Doyle Residence, 7' W Of Facility, 19' N of E Garage	10.40	---	---	---	---	---	---	---	---	---	---
	12"		2.19/ND	---	---	---	---	---	---	---	---	---	---
R08	6"	Doyle Residence, 7' W Of Facility, 43' N of E Garage	6.97	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
R09	6"	Doyle Residence, 24' W Of Facility, 31' N of E Garage	2.00	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
R10	6"	Personal Address / Ex. 6 Residence 25' E of House, 7' S N End House	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
R11	6"	Personal Address / Ex. 6 Residence 20' E of R01, 20' N of R10	13.60	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	---
TRRP Tier 1 PCLs					Various	5.0	440	1.5	2,400	3.0	0.0078	2.3	0.48

Results listed in mg/kg (parts per million; ppm) with reporting limits shown on the laboratory reports.

¹ Defined by TRRP Table 1, Residential Soils, June 2012 tables. TPH levels are Residential screening levels.

² No lab reports are available from the EPA and TCEQ files, therefore the detection limits cannot be stated.

BRL: Below Reporting Limits.

---: Not Analyzed for this compound.

N/A: Not Applicable.

Boldface denotes a concentration greater than TRRP Tier 1 PCLs.

TABLE 4D: SOIL DATA SUMMARY:

Sample	Sample Interval	Description	PCBs	VOCs	SVOCs	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
A01	6"	Alley, 12.K' W of Facility East Fence	5.70	---	---	---	---	---	---	---	---	---	---
	12"		74.60	---	---	---	---	---	---	---	---	---	
	18"		48.20	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
A02	6"	Alley, 25' W of A01	1.57	---	---	---	---	---	---	---	---	---	---
	12"		852.00	---	---	---	---	---	---	---	---	---	
	18"		22.00	---	---	---	---	---	---	---	---	---	
	24"		115.00 / 32.60	---	---	---	---	---	---	---	---	---	
A03	6"	Alley, 25' W of A02	ND	---	---	---	---	---	---	---	---	---	---
	12"		59.00	---	---	---	---	---	---	---	---	---	
	18"		ND	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
A04	6"	Alley, 25' W of A03	ND	---	---	---	---	---	---	---	---	---	---
	12"		8.54	---	---	---	---	---	---	---	---	---	
	18"		ND	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
A05	6"	Alley, 25' W of A04	2.31	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
	18"		ND	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
A06	6"	Alley, 25' W of A05	ND	---	---	---	---	---	---	---	---	---	---
	12"		7.35	---	---	---	---	---	---	---	---	---	
	18"		ND	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
TRRP Tier 1 PCLs					Various	5.0	440	1.5	2,400	3.0	0.0078	2.3	0.48

Results listed in mg/kg (parts per million; ppm) with reporting limits shown on the laboratory reports.

¹ Defined by TRRP Table 1, Residential Soils, June 2012 tables. TPH levels are Residential screening levels.

² No lab reports are available from the EPA and TCEQ files, therefore the detection limits cannot be stated.

BRL: Below Reporting Limits.

---: Not Analyzed for this compound.

N/A: Not Applicable.

Boldface denotes a concentration greater than TRRP Tier 1 PCLs.

TABLE 4D: SOIL DATA SUMMARY:

Sample	Sample Interval	Description	PCBs	VOCs	SVOCs	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
D01	6"	Day Care, 2' S of N Fence 9' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
D02	6"	Day Care, 2' S of N Fence 29' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
D03	6"	Day Care, 2' S of N Fence 49' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
D04	6"	Day Care, 15' S of N Fence 9' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
D05	6"	Day Care, 15' S of N Fence 29' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
D06	6"	Day Care, 15' S of N Fence 49' W of E Fence	ND	---	---	---	---	---	---	---	---	---	---
	12"		ND	---	---	---	---	---	---	---	---	---	
F01	6"	Outside Facility, 6' E of E Fence, 15' N of S Fence	2.98	---	---	---	---	---	---	---	---	---	---
	12"		14.00	---	---	---	---	---	---	---	---	---	
	18"		4.81	---	---	---	---	---	---	---	---	---	
	24"		ND	---	---	---	---	---	---	---	---	---	
TRRP Tier 1 PCLs					Various	5.0	440	1.5	2,400	3.0	0.0078	2.3	0.48

Results listed in mg/kg (parts per million; ppm) with reporting limits shown on the laboratory reports.

¹ Defined by TRRP Table 1, Residential Soils, June 2012 tables. TPH levels are Residential screening levels.

² No lab reports are available from the EPA and TCEQ files, therefore the detection limits cannot be stated.

BRL: Below Reporting Limits.

---: Not Analyzed for this compound.

N/A: Not Applicable.

Boldface denotes a concentration greater than TRRP Tier 1 PCLs.

TABLE 4D: SOIL DATA SUMMARY:

Sample	Sample Interval	Description	PCBs	Hexa-chloro-benzene	VOCs		SVOCs	Cadmium	Copper	Lead	Cyanide		
SO-01		BACKGROUND	ND					ND	11.6				
SO-02		BACKGROUND	0.033					0.41	20.6				
SO-03		BACKGROUND	0.340					ND	20.0				
SO-04		N of HIGH SCHOOL											
SO-05		W of HIGH SCHOOL											
SO-06		S of HIGH SCHOOL											
SO-07		HACKBERRY ST DITCH						0.45	98.4	30.6	0.22		
SO-08		POPLAR ST DITCH						0.75	42.7	107	0.33		
SO-09		CULVERT AT HACKBERRY ST						0.42	105	59.7	0.35		
SO-10		DUPLICATE of SO-09						0.48	115	62.2	0.80		
SO-11		Personal Address / Ex. 6 DITCH						1.1	1,580	73.5	0.22		
SO-12		DAY CARE YARD											
SO-13		ALLEY W. LOCATION						0.85	1,760	76.5	0.23		
SO-14		ALLEY E. LOCATION						0.77	1,860	70.0	0.29		
SO-15		SO-14 DUPLICATE						1.3	1,390	57.6	0.25		
SO-16		DOYLE YARD						0.39	1,100	35.2	0.18		
SO-17		SITE OFF-LOAD AREA	0.160	ND					279				
SO-18		SITE CONTAINER STORAGE	1,400	15					204				
SO-19		SITE TRANSFORM. STORAGE	1.70	ND					30.9				
TRRP Tier 1 PCLs					Various	5.0	440	1.5	2,400	3.0	0.0078	2.3	0.48

Results listed in mg/kg (parts per million; ppm) with reporting limits shown on the laboratory reports.

¹ Defined by TRRP Table 1, Residential Soils, June 2012 tables. TPH levels are Residential screening levels.

² No lab reports are available from the EPA and TCEQ files, therefore the detection limits cannot be stated.

BRL: Below Reporting Limits.

---: Not Analyzed for this compound.

N/A: Not Applicable.

Boldface denotes a concentration greater than TRRP Tier 1 PCLs.

Table 4C - Subsurface Soil Residential Assessment Levels

The purpose of this table is to illustrate the residential assessment levels for each COC analyzed in subsurface soils and to compare the residential assessment level to the maximum COC concentration to determine if the residential assessment level has been exceeded. Complete this table for each target COC. Highlight the value that is the residential assessment level for each COC and highlight the maximum concentration if it exceeds the assessment level. Add columns as necessary to include other applicable exposure pathways. If a Tier 2 or Tier 3 ^{GW}Soil PCL was used as the residential assessment level, include supporting documentation in Appendix 9.

No residential subsurface (greater than 15 feet below ground surface), assessment has been performed.

Table 4C. Subsurface Soil Residential Assessment Levels

COC	Source area size (acres)	^{Air} Soil _{inh-v} PCL (mg/kg)	^{GW} Soil PCL		ML	Back-ground	Maximum concentration			
			(mg/kg)	Tier	(mg/kg)	(mg/kg)	Sample ID	Sample depth	Sample date	Conc (mg/kg)

Table 4D - Soil Data Summary

A summary of the soil data from the previous EPA and TCEQ assessments is included.

Table 4E - Soil Geochemical/Geotechnical Data Summary

Provide summary tables of geochemical or geotechnical analyses results. Include in the tables the sample ID number, boring number, sample date, sample depth, parameter analyzed, analytical method, and analytical result. Include data qualifiers and identify the data qualifiers. Report non-detected results as less than the SQL, where applicable.

NA

Figure 4A - Surface Soil COC Concentration Maps

The two maps included were constructed using the EPA and TCEQ data.

Figure 4B - Subsurface Soil COC Concentration Maps

No residential subsurface (greater than 15 feet below ground surface), assessment has been performed.

Figure 4C - Cross Sections

No information is available from the previous assessments performed by the EPA and TCEQ.
--

Section 5 Groundwater Assessment

No groundwater assessment has been performed.

Section 5.1 Derivation of Assessment Levels

No groundwater assessment has been performed.

Section 5.2 Nature and Extent of COCs and NAPL in Groundwater

No groundwater assessment has been performed.

Table 5A - Groundwater Residential Assessment Levels

No groundwater assessment has been performed.

Table 5A. Groundwater Residential Assessment Levels

COC	GW _{Ing} or GW _{Class3} (mg/L)	AirGW _{Inh-V}		SWGW ¹ (mg/L)	SedGW ¹ (mg/L)	MQL (mg/L)	Back- ground (mg/L)	Maximum concentration			
		(mg/L)	Source area size (acres)					Sample ID	Sample depth (ft)	Sample date	Conc (mg/L)

Table 5B - Groundwater Data Summary

No groundwater assessment has been performed.

Table 5C - Groundwater Geochemical Data Summary

No groundwater assessment has been performed.

Table 5D - Groundwater Measurements

No groundwater assessment has been performed.

Figure 5A - Groundwater Gradient Map

No groundwater assessment has been performed.

Figure 5B - Groundwater COC Concentration Maps

No groundwater assessment has been performed.

Figure 5C - Groundwater Geochemistry Maps

No groundwater assessment has been performed.

Figure 5D - Cross Section Groundwater-to-Surface Water Pathway

No groundwater assessment has been performed.

¹ PCLs for these pathways are not applicable to all sites. Refer to *Determining PCLs for Surface Water and Sediment* (RG-366/TRRP-24) to determine when to calculate a PCL for this pathway.

Section 6 Surface Water Assessment and Critical PCL Development

No surface water assessment has been performed.

Section 6.1 Type of Surface Water and Applicable Water Quality Criteria

No surface water assessment has been performed.

Section 6.2 Surface Water Risk-Based Exposure Levels (RBELs) for Human Health and Aquatic Life Protection

No surface water assessment has been performed.

Section 6.3 Nature and Extent of COCs in Surface Water

No surface water assessment has been performed.

Section 6.4 Critical PCL for Surface Water

No surface water assessment has been performed.

Table 6A - Surface Water Critical PCLs

No surface water assessment has been performed.

Table 6A. Surface Water Critical PCLs

COC	Background (mg/L)	MQL (mg/L)	Human Health ¹ (^{SW} SW _{HH})				Aquatic Life and Ecological ² (^{SW} SW _{eco})			^{SW} SW petroleum fuel discharges ³ (mg/L)	Conc (mg/L)	
					Contact recreation		Acute (mg/L)	Chronic (mg/L)	Wildlife receptors (mg/L)		Max	Rep ⁴
			Water and fish (mg/L)	Fish only (mg/L)	Incidental ingestion (mg/L)	Dermal contact (mg/L)						

¹ ^{SW}SW_{HH} – Surface water PCL protective of human health.

² ^{SW}SW_{eco} – Surface water PCL protective of aquatic life and wildlife ecological receptors. If a PCL was not developed under an ecological risk assessment, provide the value used (benchmark, MQL, background, or human health PCL), as appropriate.

³ ^{SW}SW – Surface water PCL for discharge of petroleum fuel contaminated water. See Section 3.4 of *Determining PCLs for Surface Water and Sediment* (RG-366/TRRP-24).

⁴ Document the development of representative concentrations in Appendix 8.

Table 6B - Surface Water Data Summary

No surface water assessment has been performed.

Figure 6A - Surface Water PCLE Zone Map

No surface water assessment has been performed.

Figure 6B - Photographs

No surface water assessment has been performed.

Section 7 Sediment Assessment and Critical PCL Development

Complete this section for sediment threatened, affected, and/or sampled, or if the groundwater-to-sediment pathway is complete or reasonably anticipated to be complete. The purpose of this section is to describe and provide sufficient documentation to support the sediment RBELs for human health and the critical PCLs for sediment based on human and ecological receptors. Refer to *Determining PCLs for Surface Water and Sediment* (RG-366/TRRP-24) for guidance.

Section 7.1 Type of Sediment and Applicable Criteria

No sediment assessment has been performed.
--

Section 7.2 Sediment Risk-based Exposure Levels (RBELs) for Human Health

No sediment assessment has been performed.
--

Section 7.3 Nature and Extent of COCs in Sediment

No sediment assessment has been performed.
--

Section 7.4 Critical PCL for Sediment

No sediment assessment has been performed.

Section 8 Air Assessment and Critical PCL Development

Section 8.1 Risk-Based Exposure Levels

No air assessment has been performed.

Section 8.2 Nature and Extent of COCs in Air

No air assessment has been performed.

Table 8A - Outdoor Air Data Summary

No air assessment has been performed.

Section 9 Ecological Risk Assessment

No ecological assessment has been performed.

Reasoned Justification

No ecological assessment has been performed.

Expedited Stream Evaluation

No ecological assessment has been performed.

Tier 2 Screening Level Ecological Risk Assessment (SLERA)

No ecological assessment has been performed.

Tier 3 Site-Specific Ecological Risk Assessment (SSERA)

No ecological assessment has been performed.

Proposal for Ecological Services Analysis

No ecological assessment has been performed.

Section 10 COC Screening

NA

Section 10.1 Frequency of Detection

NA.

Section 10.2 Lab Contaminant or Blank Contaminant

NA.

Section 10.3 COC Not Sourced On-Site

NA.

Section 10.4 Appropriate Sample Quantitation Limits

NA.

Section 10.5 Screened COCs Expected to be Present Dropped from Future Sampling

NA.

Table 10A - COC Screening Summary Table

NA.

Table 10A. COC Screening Summary Table (NA)

1	2	3	4	5	6	7	8	SQL Justifications	
								9	10
COC	All detected concentrations and SQLs < residential assessment level in all sampled media §350.71(k)(1)	COC not detected in any sample in the medium §350.71(k)(3)	Frequency of detects <5% of the ≥20 samples in this medium ¹ §350.71(k)(2)(A)(i) through (iii)	Common lab contaminant ² §350.71(k)(2)(B)	Blank contaminant ² §350.71(k)(2)(C)	Max conc < background §350.71(k)(2)(D)	COC not sourced on-site ³ §350.71(k)(2)(E)	All SQLs < RAL §350.71(k)(3)(A)	SQL > RAL but justified ⁴ §350.71(k)(3)(B)

¹ Provide in the text justification that a critical PCL is not warranted based on the criteria specified in §350.71(k)(2)(A)(iii).

² Provide in the text justification that the COC is not anticipated to be present at the site (see §350.71(k)(2)(B) or (C)).

³ Provide in the text justification that the COC is not from an on-site source (see §350.71(k)(2)(E)).

⁴ Provide in the text justification that all requirements of §350.71(k)(3)(B) are met.

Section 11 Soil Critical PCL Development

NA. Using Tier I Residential, 0.5-acre source PCLs.

Section 11.1 Tier 2 or 3 PCL Development and Non-Default Parameters

Tier 2 and 3 Development

NA.

Non-Default Affected Property Parameters

NA.

Section 11.2 Soil PCL Adjustments

NA.

Section 11.3 Soil Critical PCLs

NA.

Section 12 Groundwater Critical PCL Development

NA, no groundwater assessment has been performed.

Section 12.1 Tier 2 or 3 PCL Development and Non-Default Parameters

Tier 2 and 3 Development

NA.

Non-Default Affected Property Parameters

NA.

Groundwater to Surface Water Dilution Factors

NA.

Section 12.2 Groundwater PCL Adjustments

NA.

Section 12.3 Groundwater Critical PCLs

NA.

Section 13 Notifications

The purpose of this section is to describe the notifications that have been completed or will be completed under §350.55. Refer to *Notification Requirements* (RG-366/TRRP-17) for guidance on the conditions that require notice.

Section 13.1 Notification of Actual or Probable Exposure

Unknown if notifications have been made by EPA or TCEQ, based on their previous investigations.

Section 13.2 Other Notifications

Unknown.

Table 13A - Notification Summary

Use this table to identify the real properties for which notification is required. Assign each real property an ID that is then used on Figure 13A to distinguish property locations. In the Reason for Notification column, specify if notification was required for an actual or probable exposure or another situation that prompted notification. If actual or probable exposure necessitates the notification of tenants/lessees or other persons related to the property usage, provide a list of the persons, their mailing addresses, and telephone numbers with Table 13A and identify the property which with they are associated.

Table 13A. Notification Summary

Property ID	Property owner name	Physical property address, city, zip	Property owner mailing address, city, state, zip	Property owner phone no.	Contact name, mailing address, city, state, zip (if different from owner)	Reason for notification

Figure 13A - Notification Map

Include a large-scale map that illustrates the locations of the properties, including rights of way and easements, that require notification. Label each property with the property ID assigned in Table 13A. Illustrate the legal property boundary and the relevant affected property boundary as defined by the assessment levels. To eliminate this figure, this information may be presented in Figure 1A or 1B if the scale is appropriate.

Appendices

Appendix 1 Notifications (NA)

Provide copies of notification to affected landowner(s) or other entities requiring notification. Document that the required notices have been completed by providing a notarized statement of such fact including the names and addresses of persons receiving direct notice, such as mail, personal contact, public meeting, fliers, etc. Refer to *Notification Requirements* (RG-366/TRRP-17) for guidance.

Appendix 2 Boring Logs and Monitor Well Completion Details (NA)

For each boring drilled or monitor well installed during the assessment, provide a soil boring log with monitor well completion details if applicable. Include in the boring log:

- elevation of ground surface referenced to mean sea level,
- soil description and classification,
- moisture content,
- depth at which groundwater was encountered while drilling,
- visual confirmation of NAPL, such as staining,
- identification of groundwater-bearing units and saturated zones,
- field-screening results and field-screening sample locations,
- sample locations submitted for laboratory analyses,
- depth markings,
- sample type (Shelby tube, split spoon, etc.),
- boring diameter,
- date drilled,
- name of the person who logged the well, and
- drilling method.

Include in the monitor well completion details:

- elevation of top and bottom of casing referenced to mean sea level,
- static water level and date measured (referenced from both depth below ground surface and mean sea level),
- screened interval and slot size,
- casing interval and diameter,
- sand pack grain size and interval,
- date(s) of installation,
- cement and grout interval.

If the assessment was conducted solely by excavation, indicate such and provide lithologic descriptions and the other information requested to the extent appropriate.

Appendix 3 Monitor Well Development and Purging Data (NA)

Submit monitor well development and purging data in a table or provide in photocopies of field notes that specify water quality stabilization parameters, turbidity measurements, water-level measurements while purging, flow rates, and the other parameters measured during well development and purging.

Appendix 4 Registration and Institutional Controls(NA)

Include in this appendix copies of the Industrial and Solid Waste Notice of Registration (NOR), MSD documentation (a copy of the ordinance, deed restriction, and a copy of the MSD certificate and a map that illustrates the boundary of the MSD and the affected property), and/or existing institutional controls restricting well installation or other uses of the property.

Appendix 5 Water Well Records

Include a copy of the State Well Report and companion documents (water quality analysis, undesirable water reports, etc) completed by the driller for each water well identified in the receptor surveys. Also include in this appendix other documentation on the water wells, including information from state agency databases and records, published reports (particularly those by the Texas Water Development Board and Bureau of Economic Geology), records from groundwater conservation districts or subsidence districts, and records from other entities with information on the water well(s). Document the presence or absence of water wells and the primary sources of information researched to come to this conclusion.

Appendix 6 Monitor Well Records (NA)

Provide a copy of the State Well Report completed by the driller for each installed monitor well. For information on completing State Well Reports, contact the Texas Department of Licensing and Regulation at 800-803-9202 or 512-463-6599 or <http://www.tdlr.state.tx.us>.

Appendix 7 Aquifer Testing Data (NA)

For the aquifer tests performed on each groundwater-bearing unit, provide a narrative description of the work performed and the conclusions drawn. Identify the monitor wells used and provide an analysis of the field data, governing equations, sample calculations, assumptions, limitations in the collection of data, and justification for choosing the test method based on the site conditions. Provide a table of field measurements and input parameters such as transmissivity, hydraulic conductivity, storage coefficient of the aquifer, optimum sustainable groundwater pumping rate, and groundwater capture zone/radius of influence. Also provide a graph of well plots showing time of drawdown/buildup (or recovery for a slug test). Refer to the appropriate figure(s) which illustrate the locations of wells utilized.

Appendix 8 Statistics Data Tables and Calculations (NA)

Use this appendix to document data and statistical calculations used to determine site-specific background or representative concentrations of COCs in the following situations:

1. for calculating the site-specific background value, used as the residential assessment level or the critical PCL, for direct comparison to the individual samples from the assessed environmental medium data, as provided in §350.51(l) and §350.79(1);
2. for calculating a representative concentration (the upper confidence limit (UCL)) from the sample data from the environmental medium within an exposure area for statistical comparison to the critical PCL, or an alternative statistical method which meets the performance criteria required in §350.79(2)(A); or
3. for statistically comparing the environmental medium data set within an exposure area to the site-specific background data set, meeting the performance criteria required in §350.79(2)(B).

When applicable, include a map of exposure areas and provide justification for the placement and size of the exposure areas. Provide full documentation of the statistical comparisons including, but not limited to, the name and description of the statistical method(s) used and a list of statistical parameters and assumptions. Provide tables that, at a minimum, contain the following for each media: COC or parameter type, concentration, sample depth or interval, total number of samples used in the statistical calculation, and the statistical value calculated. Non-detect analytical results should be assigned a proxy value in accordance with §350.51(n). Either provide a map illustrating the sample locations used in the statistical calculations, or reference the appropriate figure in this report in which those samples have been specifically denoted.

Appendix 9 Development of Non-Default RBELs and PCLs (NA)

Include in this appendix the equations, calculations, detailed explanations beyond that provided in other sections, justification, input parameters, results, and supporting documentation associated with the development of non-default RBELs and Tier 2 and 3 PCLs. Refer to *Tiered Development of Human Health PCLs* (RG-366/TRRP-22). Also include in this appendix the information on development of TPH PCLs (refer to *Development of Human Health PCLs for Total Petroleum Hydrocarbon Mixtures* (RG-366/TRRP-27). Be sure to clearly label the information to adequately identify the COC, the input parameters, the model used, and the tier under which the evaluation was conducted. Document the applicability of non-default input parameters with lab reports, calculations, maps, or other justification. If PCLs have been adjusted due to cumulative risk/hazard level, aesthetic concerns, residual soil saturation, or theoretical soil vapor calculations, complete the appropriate tables and discuss the logic and methods used to make the adjustments. Support non-default input parameters and development of Tier 2 and 3 PCLs with complete documentation and justification. Unsubstantiated information will be considered invalid. Exposure factors that cannot be varied are listed in §350.74. Include verification that the TCEQ Executive Director has approved a variance from default exposure factors.

For convenience, Tier 2 tables are provided in this appendix. Use the tables only as necessary. Repeat the tables as necessary to document PCL development for different media, and for differing PCLs on-site and off-site. If Tier 3 PCLs were calculated, develop tables to document the inputs. If a Tier 2 dilution factor was calculated, provide maps and cross sections, if not referenced elsewhere in the report, to illustrate the location and measurements for deriving the inputs.

Appendix 9 Tables

COC Chemical/Physical Parameters and Toxicity Factors

Use these two tables only when a parameter was changed from that listed in rule or guidance. If a parameter different from that listed in rule or guidance was not used, do not submit this table. Provide in this appendix the associated supporting documentation. See *Toxicity Factors and Chemical/Physical Parameters* (RG-36/TRRP-19) for more information.

Properties for many COCs are listed in the Chemical/Physical Properties table in the Tier 1 PCL tables available on the TRRP web page. Use this table to list ONLY those COCs that are not included in the rule or web page or those COCs for which the person changed the value from a Tier 1 default. Only complete the portions that apply to these particular COCs. Note that values for shaded columns may not be changed from values listed in the rule. Include the calculations in this appendix and document the sources of information for those properties changed in accordance with §350.73(e). Do not complete this table for those COCs where the properties are the same as those listed in Figure 30 TAC 350.73(e) or in the chemical/physical properties table available from <http://www.tnrc.state.tx.us/permitting/trrp.htm>.

COC	Physical state	Type	M.W. (g/mole)	H' (cm ³ -H ₂ O/cm ³ -air)	LogK _{oc}	LogK _d	D _{air} (cm ² /s)	D _{wat} (cm ² /s)	Solubility (mg/l)	Vapor pressure (mm Hg)	Log K _{ow}	Br _{Abg} (g soil/g D.W.)	Br _{Bg} (g soil/g D.W.)

Physical state	s - solid at 20°C; l - liquid at 20°C; g - gaseous at 20°C;	K _d	Soil-water partition coefficient (cm ³ -H ₂ O/g-Soil)
Type	O: organic; I: inorganic; M: metal; OA: organic acid	D _{air}	Diffusion coefficient in air (cm ² /s)
M.W.	Molecular weight (g/mole)	D _{wat}	Diffusion coefficient in water (cm ² /s)
H'	Dimensionless Henry's Law Constant H' = H x 41.57 at 20°C (cm ³ -H ₂ O/cm ³ -air)	K _{ow}	Octanol-water partition coefficient (cm ³ -H ₂ O/cm ³ -Octanol)
H	Henry's Law Constant (atm-m ³ /mole)	Br _{Abg}	Soil-to-above ground plant biotransfer factor (g soil/g plant tissue dry weight)
K _{oc}	Soil organic carbon-water partition coefficient (cm ³ -H ₂ O/g-Carbon)	Br _{Bg}	Soil-to-below ground plant biotransfer factor (g soil/g plant tissue dry weight)

List the COCs not included in the Toxicity Factors Table. Do not complete this table if the toxicity factors are the same as those in the Toxicity Factors Table as provided in the Tier 1 PCL tables at <http://www.tnrc.state.tx.us/permitting/trrp.htm>. Note that the toxicity factors must be provided by the TCEQ before use.

Provide the date of the toxicity factors table used: _____

COC	Reference concentration RfC ¹ (mg/m ³)	Oral reference dose RfD _o (mg/kg-day)	Dermal reference dose RfD _d (mg/kg-day)	Dermal slope factor SF _d (mg/kg day)	Oral slope factor SF _o (mg/kg day)	Inhalation unit risk factor URF (µg/m ³)	Relative bioavailability factor RBAF (unitless)	Dermal absorption fraction ABS _d ² (unitless)	Gastrointestinal absorption fraction ABS _{GI} (unitless)

¹ When no RfC or URF is available, use the most current TCEQ Chronic Remediation-Specific Effects Screening Level value as the RfC.

² It is not necessary to calculate a soil dermal contact RBEL for COCs with a vapor pressure in mm HG ≥ 1.

Surface Soil - $TotSoil_{Comb}$

Tier 2 Evaluation

Use these tables to document the derivation of Tier 2 $TotSoil_{Comb}$ PCLs. Show the calculations in this appendix.

Specify if table is for on-site or off-site property _____ On-site _____ Off-site
 Off-site land use(s) for purpose of PCL development¹: _____ Residential _____ Commercial/industrial

	Soil bulk density ρ_b (g/cm ³)	Total porosity θ_T (cm ³ /cm ³)	Volumetric water content θ_{ws} (cm ³ /cm ³)	Volumetric air content θ_{as} (cm ³ /cm ³)	Fraction organic carbon foc (g/g)	Garden soil fraction organic carbon foc (g/g)	Fraction vegetative cover V	Wind speed U_m (m/s)	Equivalent threshold value of windspeed U_t (m/s)	Function dependent on (U_t/U_m) F(x)	Averaging time AT.w (years)	Exposure duration ED.w (years)	Exposure frequency EF.w (days/yr)
Tier 1 defaults	1.67	0.37	0.16	0.21	0.008	0.008	0.50	4.80	11.32	0.224	25	25	250
Tier 2 values													

COC	Source area size (acres)	Affected soil thickness d_s (cm)	Q/C	VFss (mg/m ³ /mg/kg)	PEF	Carcinogenic						Noncarcinogenic						$TotSoil_{Comb}$ PCL (mg/kg)
						Air	Soil	Soil	AbgVeg	BgVeg	PCL	Air	Soil	Soil	AbgVeg	BgVeg	PCL	
						RBEL Inh-c	RBEL Ing-c	RBEL Derm-c	RBEL Ing-c	RBEL Ing-c		RBEL Inh-nc	RBEL Ing-nc	RBEL Derm-nc	RBEL Ing-nc	RBEL Ing-nc		

¹ Repeat the table if needed for different off-site land uses.

Surface and Subsurface Soil - ^{GW}Soil

Tier 2 Evaluation

Specify media to which tables apply _____ Surface soil _____ Subsurface soil

Specify if table is for on-site or off-site property _____ On-site _____ Off-site
 Off-site land use(s) for purpose of PCL development¹: _____ Residential _____ Commercial/industrial

	Soil bulk density ρ_b (g/cm ³)	Volumetric water content θ_{ws} (cm ³ /cm ³)	Volumetric air content θ_{as} (cm ³ /cm ³)	Fraction organic carbon foc (g/g)	Groundwater Darcy velocity U_{gw} (cm/year)	Aquifer thickness b_{gw} (m)	Ground-water gradient i (m/m)	Hydraulic conductivity K (m/day)	Average annual precipitation P (cm/yr)	Net infiltration rate I_f (cm/yr)	Saturated hydraulic conductivity of vadose zone soils K_{vs} (cm/s)
Tier 1 defaults	1.67	0.16	0.21	0.002	NA	NA	NA	NA	NA	NA	NA
Tier 2 values											

COC	Critical GW PCL (from Table 12A)		Affected soil thickness L_1 (cm)	Depth from top of affected soil to gw table L_2 (cm)	Source area width parallel to gw flow W_s (m)	GW mixing zone thickness δ_{gw} (m)	Soil-leachate partition factor K_{sw} (mg/L/mg/kg)	Lateral dilution factor LDF	^{GW} Soil PCL (mg/kg)
	(mg/L)	pathway ²							

¹ Repeat the table if needed for different off-site land uses.

² Specify the pathway for the critical groundwater PCL (^{GW}GW_{Ing}, ^{GW}GW_{Class3}, ^{Air}GW_{Inh-V}, ecological PCL (eco), ^{SW}GW, etc.)

Subsurface Soil – ^{Air}Soil_{Inh-V}
Tier 2 Evaluation

Specify if table is for on-site or off-site property _____ On-site _____ Off-site
 Off-site land use(s) for purpose of PCL development¹: _____ Residential _____ Commercial/industrial

	Soil bulk density ρ_b (g/cm ³)	Total porosity θ_T (cm ³ /cm ³)	Volumetric water content θ_{ws} (cm ³ /cm ³)	Volumetric air content θ_{as} (cm ³ /cm ³)	Averaging time ² AT.w (years)	Exposure duration ² ED.w (years)	Exposure frequency ² EF.w (days/yr)
Tier 1 defaults	1.67	0.37	0.16	0.21	25	25	250
Tier 2 values							

COC	Source area size (acres)	Affected soil thickness d_s (cm)	Q/C	K_d (cm ³ -water/g-soil)	VF _{ss} (mg/m ³ /mg/kg)	Carcinogenic		Noncarcinogenic		^{Air} Soil _{Inh-V} PCL (mg/kg)
						^{Air} RBEL _{Inh-c}	PCL	^{Air} RBEL _{Inh-nc}	PCL	

¹ Repeat the table if needed for different off-site land uses.

² Prior approval from the TCEQ Executive Director is required for the variance (see §350.74(j)(2)).

Theoretical Soil Saturation Limit (C_{sat})

Use these tables to determine a property-specific theoretical soil saturation limit in order to demonstrate the volatilization pathways are not applicable for a particular COC. See §350.75(i)(8) for applicability. Support non-default parameters by providing supporting documentation, the equation, and calculations in this appendix.

Specify media to which tables apply _____ Surface soil _____ Subsurface soil

	Volumetric water content in vadose soils θ_{ws} (cm ³ /cm ³)	Volumetric air content in vadose soils θ_{as} (cm ³ /cm ³)	Fraction organic carbon in soil/gw F_{oc} (g/g)	Soil bulk density ρ_b (g/cm ³)
Tier 1	0.16	0.21	0.002	1.67
Tier 2				

COC	Aqueous solubility of pure COC S (mg/L)	Henry's Law Constant (air-water partition coefficient) H'	Soil-water partition coefficient K_d (cm ³ /g)	Organic carbon partition coefficient K_{oc} (cm ³ /g)	C_{sat} PCL (mg/kg)

Residual Soil Saturation Limit

Use these tables to determine the presence of NAPL and estimate the concentration of an organic COC at which NAPL becomes mobile. See §350.75(i)(9) for applicability. **Support non-default parameters by documentation and explanation.** Support non-default parameters by providing supporting documentation, the equation, and calculations in this appendix.

Specify media to which tables apply ☐ Surface soil ☐ Subsurface soil

	Residual saturation Res_{sat} (cm ³ /cm ³)	Total soil porosity θ (cm ³ /cm ³)	Density of NAPL ρ_{NAPL} (g/cm ³)	Soil bulk density ρ_b (g/cm ³)
Tier 1	0.04514 ¹	0.37	1	1.67
Tier 2				

COC	Soil _{Res} PCL (mg/kg)

¹ The value listed in the rule is in error.

Risk Level and Hazard Check

Specify media to which table applies ☐ Surface soil ☐ Subsurface soil ☐ Groundwater

Use this table to document the adjustment of a PCL based on cumulative risk. Repeat this table for each complete or reasonably anticipated to be complete exposure pathway in the medium for which there are 10 or more carcinogens or 10 or more noncarcinogens acting through a single exposure pathway. When adjusting the $TotSoil_{Comb}$ PCL using exposure areas, specify the exposure area to which the adjustment applies. Do not use this table for $^{GW}Soil$, $^{GW}GW_{Class3}$, or ^{SW}GW .

Complete this form for both the carcinogenic and noncarcinogenic effects for each COC for each human health exposure pathway using PCLs calculated at chosen tier. For example, for a given exposure pathway, if a Tier 1 PCL is calculated for COC "X," a Tier 2 PCL is calculated for COC "Y," and a Tier 3 PCL is calculated for COC "Z," those PCLs are included in the table together and are not segregated by tier. This is a precursor to establishing critical PCLs. If a PCL was not established because of lack of an applicable toxicity factor, input "NA" for the COC in the applicable column. For TPH, complete only the noncarcinogenic portion and do not handle concurrently with the other non-TPH COCs. TPH is treated in isolation. See TCEQ guidance document *Risk Levels and Hazard Indices* (RG-366/TRRP-18) for specific information on cumulative adjustments and *Development of Human Health PCLs for Total Petroleum Hydrocarbon Mixtures* (RG-366/TRRP-27) for TPH.

COC`	Carcinogenic Endpoint			Non-Carcinogenic Endpoint		
	PCL _i -adj	PCL _i (mg/kg or mg/L)	PCL _i -adj/PCL _i (ratio)	PCL _i -adj	PCL _i (mg/kg or mg/L)	PCL _i -adj/PCL _i (ratio)
Cumulative Risk Level (RL):				Hazard Index (HI):		

Groundwater Non-Default Affected Property Parameters

Name(s) of groundwater-bearing unit(s): _____

COC-Specific Affected Property Parameters

COC	Cross sectional area of air emissions source A (m ²)	Length of air emissions source parallel to wind direction L (m)

Affected Property Parameters

Term	Affected property parameters	Tier 1 defaults	Value used for Tier 2/3
GW pH	Measured groundwater pH	NA	
σ_y	Transverse air dispersion coefficient (m) (dispersion estimates based on the Pasquill-Gifford system adopted by U.S. Public Health Service, Turner, 1970, <i>EPA Workbook of Atmospheric Dispersion Estimates</i> ; see Cooper & Alley, 1994, <i>Air Pollution Control</i>)	NA	
σ_z	Vertical air dispersion coefficient (m) (dispersion estimates based on the Pasquill-Gifford system adopted by U.S. Public Health Service, Turner, 1970, <i>EPA Workbook of Atmospheric Dispersion Estimates</i> ; see Cooper & Alley, 1994, <i>Air Pollution Control</i>)	NA	
Q	Air volumetric flow through mixing zone (m ³ /s)	NA	

Groundwater – ^{GW}GW_{Ing}¹ or ^{GW}GW_{Class3}¹ and ^{Air}GW_{Inh-V}

Groundwater-bearing unit: _____ Repeat tables for each groundwater-bearing unit.

Specify if table is for on-site or off-site property _____ On-site _____ Off-site

Off-site land use(s) for purpose of PCL development²: _____ Residential _____ Commercial/industrial

Tier 2 Evaluation

	Total porosity (vadose zone) θ_T (cm ³ /cm ³)	Volumetric water content (vadose zone) θ_{ws} (cm ³ /cm ³)	Volumetric air content of vadose zone soils θ_{ws} (cm ³ /cm ³)	Volumetric water content (capillary fringe) θ_{wcap} (cm ³ /cm ³)	Volumetric air content (capillary fringe) θ_{acap} (cm ³ /cm ³)	Vadose zone thickness h_v (cm)	Capillary fringe thickness h_{cap} (cm)	Depth to gw L_{gw} (cm)	Average windspeed U_{air} (cm/sec)	Ambient air mixing zone height δ_{air} (cm)	Averaging time ³ AT.w (years)	Exposure duration ³ ED.w (years)	Exposure frequency ³ EF.w (days/yr)
Tier 1 defaults	0.370	0.16	0.21	0.333	0.037	300	5	305	240	200	25	25	250
Tier 2 values													

COC	Source area width W_g (cm)	VF _{wamb} (mg/m ³ /mg/L)	Carcinogenic				Noncarcinogenic				MCL, MCL2 or EPA ⁴	^{GW} GW _{Ing} or ^{GW} GW _{Class3} PCL		^{Air} GW _{Inh-V} PCL	
			^{GW} RBEL _{Ing} or ^{GW} RBEL _{Class3}	PCL	^{GW} RBEL _{Inh}	PCL	^{GW} RBEL _{Ing} or ^{GW} RBEL _{Class3}	PCL	^{GW} RBEL _{Inh}	PCL		(mg/L)	>S ⁵	(mg/L)	>S

¹ Only applies for COCs for commercial/industrial land use without an MCL and those for which a variance under §350.74(j)(2) is obtained.

² Repeat the table if needed for different off-site land uses.

³ Prior approval from TCEQ Executive Director for the variance is required (§350.74(j)(2)).

⁴ Specify whether the PCL is based on the MCL, secondary MCL, or other EPA value.

⁵ Specify if PCL exceeds the aqueous solubility limit.

Groundwater - ^{SW}GW and ^{Sed}GW

Provide a map that illustrates how the input parameters were measured or determined.

Groundwater-bearing unit: _____

Repeat tables for each affected GWBU discharging to surface water.

Surface water body: _____

Parameter Selection for Tier 2 Dilution Factor Models

Term	Description	Defaults	Value Used
7Q2 flow rate	Seven-day low-flow occurring on average every two years (cm/s)	NA	
U_{gw}	Groundwater Darcy velocity (cm/yr)	NA	
K	Hydraulic conductivity (cm/s)	NA	
i	Lateral hydraulic flow gradient (cm/cm)	NA	
δ_p	Thickness of affected groundwater (cm) in excess of the ^{SW} RBEL or the SW_{eco}^1	NA	
δ_{pi}	Thickness of affected groundwater in excess of ^{SW} RBEL discharging to surface water stream ¹ (cm)	NA	
L_m	Influent width of groundwater PCLE zone at point of discharge to surface water ¹ (cm)	NA	
Q_{igw}	Average influent flow of affected groundwater to surface water ¹ (cm ³ /s)	NA	
V_{sw}	Average surface water velocity in groundwater discharge mixing area (cm/s)	lake: 0.5 cm/s tidal water: 1 cm/s large river (>100 cfs): $3.5 \times (7Q2)^{0.5}$ cm/s	
W_{sw}	Distance from the shore extending into the surface water body through which affected groundwater discharges through sediment into surface water ¹ (cm)	NA	
h_{sw}	Depth of surface water mixing area above the affected groundwater discharge to surface water (cm)	30	
Q_{sw}	Flow of surface water through the surface water mixing area - 7Q2 flow for a stream with $7Q2 \leq 100$ cfs or mixing area flow for other water body (cm ³ /s)	NA	
ρ_{sed}	Sediment bulk density (g/cm ³)	1.67	
θ_T	Total sediment porosity (cm ³ /cm ³)	0.37	
foc	Fraction organic carbon in sediment (g/g)	0.01	
K_{sed-w}	Sediment-groundwater partition coefficient (mg/L/mg/kg)	NA	
SWMF	Surface water mixing factor	1	

COC	^{SW} RBEL or SW_{eco} (mg/L)	DF	^{SW} GW (mg/L)	Tier

COC	Sediment RBEL	k_d	k_{oc}	^{Sed} GW (mg/L)	Tier

¹ This value may be determined for each COC if desired. If so, attach separate table listing the value used for each COC.

Appendix 10 Laboratory Data Packages and Data Usability Summary (NA)

Use this appendix to provide lab reports and supporting information. Print lab reports double-sided and also include with the report a CD with the lab reports in pdf format. Submit one data usability summary for all the data (field and laboratory) used in this APAR. Report data in conformance with the TCEQ guidance document *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13). For each laboratory data package submitted with the APAR, provide a signed laboratory data package cover page (LDCP) and the items listed on the LDCP. The LDCP form is provided in Appendix A of *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13).

Appendix 11 Miscellaneous Assessment

Include the results of assessment or sampling activities that are not included in the media sections. This section may be used to describe geophysical investigations such as seismic surveys, ground-penetrating radar surveys, and resistivity surveys; wipe samples; waste sampling (other than for waste classification purposes); concrete slab sampling; biota sampling (flora or fauna); food sampling; and other topics applicable to the assessment. Include tables and figures as necessary to summarize and illustrate assessment results.

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 18, 2010

Mr. Charles R. Robertson
Vice President
Terra-Solve, Inc.
3216 Commander Drive, Suite 103
Carrollton, Texas 75006-2518

Re: Comments to "Request for Additional Information"

Former F.J. Doyle Salvage

Personal Address / Ex. 6 905 N. Poplar Street), Leonard, Fannin County, Texas
TCEQ SWR No. 80951; EPA CERCLIS No. TXD980865109; Customer No.
CN600359095; Regulated Entity No. RN100649227

Dear Mr. Robertson:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above referenced submittal. A list of the comments is enclosed.

Please call me at (512) 239-4940 if you need additional information or wish to discuss these comments or the due date. Thank you for your cooperation in this matter.

Sincerely,

A handwritten signature in cursive script, reading "P. Lall", is positioned below the word "Sincerely,".

Pindy Lall, Project Manager
VCP Team 1, VCP-CA Section
Remediation Division

PSL/jdm

Enclosure: Comments

cc: Mr. Sam Barrett, Waste Program Manager, TCEQ Region 4, Dallas/Fort Worth

Comments

1. Surface soils need to be delineated horizontally to 1.1 mg/kg for polychlorinated biphenyls (PCBs). Surface soils under Texas Risk Reduction Program (TRRP) are soils at a depth of 0-15 feet. Copper and hexachlorobenzene will also be required to be delineated horizontally.
2. Soil contamination will need to be delineated vertically.
 - a. Soil vertical delineation is required to method quantitation limit (MQL) unless a groundwater sample is taken at the site.
 - b. If a groundwater sample is taken, the entire soil column can be assumed to be contaminated.
3. If the site enters the Voluntary Cleanup Program (VCP), a groundwater sample will be required.
4. In situations where the entire soil column is assumed to be contaminated, a control (such as a parking lot that serves as an impervious cover) may be implemented to prevent exposure. A parking lot may be utilized as a impervious cover depending on the material used; however, maintenance of the parking lot would be required to ensure the integrity of the parking lot as a control. Any area that is not covered will be required to be removed, decontaminated, and/or controlled by other means.
5. A demonstration that the drainage ditches are not impacting surface water will be necessary.

Appendix 12 Waste Characterization and Disposition Documentation (NA)

Use this appendix to document waste characterization and disposition of wastes associated with an assessment or remediation, including investigation derived waste and other wastes generated during field activities. Describe the wastes generated and the results from the completed waste classification and disposal/treatment activities. Supporting documentation may include written documentation and process knowledge. Provide copies of waste characterization sample analytical data packages.

Appendix 13 Photographic Documentation

If not provided elsewhere, include relevant dated and oriented photographs depicting the affected property and field activities (e.g., potential source areas, surrounding properties, abatement activities, etc.).

Appendix 14 Standard Operating Procedures (NA)

Use this appendix to provide copies of the standard operating procedures followed during field activities (for example, sampling methods, drilling methods).

Appendix 15 OSHA Health and Safety Plan (§350.74(b)(1)) (NA)

Use this appendix only for documentation supporting the use of an available eight-hour time weighted average occupational inhalation criteria as the air inhalation RBEL. Provide documentation of the health and safety plan, a certification that the plan is followed, and the demonstration that offsite receptors are protected per §350.74(b)(1).

Appendix 16 Reference List

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), for Fannin County, Texas, Unincorporated Area; Panel Number 480807 0010B, November 8, 1977.

Geologic Atlas of Texas, Sherman Sheet; University of Texas at Austin, Bureau of Economic Geology, 1967, revised 1991.

GeoSearch, LP (GeoSearch), The GeoSearch Aerial Photo Decade Package, Job Number 11795, November 9, 2009, for Aerial Photographs, 1950, 1963, 1969, 1989, 1996, and 2004.

GeoSearch, LP (GeoSearch), The GeoSearch Radius Report with Geoplus; Job Number 11795, November 9, 2009.

National Oceanic & Atmospheric Administration, National Climatic Data Center; <http://www.noaa.com>.

Railroad Commission of Texas, Public GIS Map Viewer, <http://gis2.rrc.state.tx.us/public>.

Texas Water Development Board (TWDB) Groundwater Database, Fannin County.

www.twdb.state.tx.us/publications/reports/GroundWaterReports/GWDatabaseReports/GWdatabaserpt.htm
TexShare Database, Sanborn Map Reports. No coverage.

United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS), *Soil Survey of Fannin County, Texas*; 2001.

United States Geological Survey (USGS) 7.5-Minute Series Topographic Map; *Leonard, Texas Quadrangle*; 1964.

SWR 80951

partial of pdf in 80951 on V drive

" 9121320 smaller .pdf "

sent by Rick Robertson 6/17/10
email

RN100649227



PRELIMINARY ASSESSMENT REPORT

Doyle, Frank J.

EPA ID NO. TXD980865109

LEONARD, FANNIN COUNTY, TEXAS

May 1997

Prepared for:

Environmental Protection Agency

Dallas, TX

Fluor Daniel, Inc.

Submitted by:

for Wendy Bigley
Project Geologist

Fluor Daniel, Inc.

Approved by:

Bill Park
Project Manager



9121320

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Figure 1: Site Location Map
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Attachment 1: Photographic Documentation

1.0 INTRODUCTION

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the U.S. Environmental Protection Agency (EPA), Waste Management Division, Region 6 conducted a Preliminary Assessment (PA) at the Doyle, Frank J. site in Leonard, Fannin County, Texas. The purpose of this investigation was to collect information concerning conditions at the site sufficient to assess the threat posed to human health and the environment and to determine the need for additional CERCLA/SARA or other appropriate action. The scope of the investigation included review of available file information, a comprehensive target survey, and an onsite reconnaissance.

2.0 SITE DESCRIPTION, OPERATIONAL HISTORY, AND WASTE CHARACTERISTICS

2.1 Site Description

The Doyle, Frank J. site, hereafter referred to as the Frank J. Doyle Transformer site is located at 305 E. Cottonwood in a predominately residential area of Leonard, Fannin County, Texas (Figure 1- Site Location Map). The geographical coordinates are 33° 23' 23" North latitude and 96° 14' 34" West longitude (Figure 1). To reach the site from Dallas, travel north on Hwy 78, turn west on Hackberry Street, then north on Poplar Street. The site is located on the corner of Poplar and Cottonwood. The site is bound on the north, south, and west by residential homes and the Leonard High School to the east (Figure 2- Site Sketch).

Frank J. Doyle Transformer site is approximately 0.6 acres in size (Figure 2). There is one shop building located on site. The shop houses two draining tables used to drain residual oil out of transformers. The yard of the site consists of a cement drive and gravel ground cover. In the southwest corner of the site is a concrete pad that is used to store 55 gallon drums and three (two 500-gallon and one 375 gallon) tanks located inside a concrete containment area. The used oil storage area is also the point where the used oil is vacuumed out via a vacuum truck and hauled off site for disposal. The gravel yard consists of storage for various sizes of transformers. The yard also contains a twenty yard dumpster that stores general shop refuse. The site is completely surrounded by a wooden fence. There are three gates that lead onto the property located on the north, east and west sides (Figure 2). The gates are secured and locked after business hours.

A site reconnaissance was conducted by Fluor Daniel on May 20, 1997. This site is currently active and

is bordered by residential properties to the north, south and west, and Leonard High School to the east (Figure 2). The owner, Mr. Frank J. Doyle, retired in January 1997 and his son, Gary Doyle currently operates the business. The site reconnaissance revealed evidence of soil contamination with yellowish/green staining of the soil (Photos #7 & 8). In addition to the staining on the ground, the area around the shop showed signs of deterioration and staining (Photo #8). The site is located on relatively flat terrain that slopes gently toward the northeast boundary (Figure 1).

2.2 Operational History

Frank J. Doyle Transformer is currently active and has been in operation since approximately 1974. Mr. Doyle obtains transformers from companies in Texas, Oklahoma, Louisiana and Arkansas. Salvage operations involve recovering oil, wiring and scrap metal from the transformers. Before salvage operations begin, the used oil is pumped out of the transformers and placed in a storage tank located in the southwest corner of the property. The transformer is then placed on a draining table to allow any residual oil to displace. The remaining oil is placed in 55 gallon drums which are stored on a concrete pad also located in the southwest corner of the property. From the late 1970's to early 1980's, the site only accepted non-Polychlorinated Biphenyls (PCB) transformers [Reference 1, pg. 1]. Prior to that, Mr. Doyle used transformer oil for weed control and has distributed the oil to various individuals throughout Leonard for use as a weed killer [Reference 2, pg. 3].

Mr. Frank J. Doyle registered with the Texas Water Commission (TWC) now called the Texas Natural Resources Conservation Commission (TNRCC) in 1993 for various non-hazardous waste generated on site such as; 1.) used oil from non-PCB transformer being scrapped for salvage, 2.) ash residue from furnace used to remove varnish from copper wire, 3.) general plant refuse from office and shop, 4.) various storage containers for used oil including one 375 gallon, two 500 gallon and 55 gallon drums that are stored on a concrete pad located on the southwest corner of the property (Photos # 11&13), 5.) high temperature oven to burn varnish off copper and 6.) a four yard dumpster for the accumulation of plant trash (Photo #15). The registration reflects hazardous and/or industrial waste generated and management activities for which Mr. Doyle has provided notification [Reference 3, pp. 2-25].

2.3 Waste Characterization

Past site inspections of Frank J. Doyle Transformer include a Site Assessment sampling investigation conducted by the Ecology & Environment's Technical Assistant Team (TAT) on October 12, 1990 and

April 19, 1991 and two EPA PCB inspections conducted on July 20, 1990 and September 7, 1994. Under the supervision of the EPA, Mr. Doyle's contractor, Worldwide Reclamation conducted surface and subsurface soil sampling on May 23 and 24, 1995 [Reference 2, pg. 3]. An effort was made to obtain these reports and analytical data pertaining to these sampling events but to date attempts have been unsuccessful.

On July 10, 1995 TAT collected 68 surface and subsurface soil samples. The samples were collected from 24 locations outside of the facility on the west, south and east sides to determine the presence and/or extent of PCB contamination [Reference 2, pg. 2].

Mr. Frank J. Doyle's house is the nearest residence and is located just west of the site. On July 12, 1995 TAT collected soil samples from the Doyle's residence just outside the perimeter of the fence of the salvage yard. The laboratory results indicate that the highest concentration of PCB's in the Doyle's yard was 10.44 parts per million (ppm) for Aroclor 1260. This location was marked as RO7 and is located southwest of the gate that leads from the salvage yard to the Doyle's residence (Reference 3 and Figure 3- Sample Results Map). The residence located south of Frank J. Doyle Transformer was also sampled. The laboratory results showed that the highest concentration of Aroclor 1260 in the 0-6 inch sample interval was 27.9 ppm. This location was labeled as RO1 and was collected directly across from the outside storage area for the transformer waiting to be salvaged. At the same residence, surface soil samples were collected in the northeast corner of the property. These samples were southeast of the transformer storage area and revealed the highest Aroclor 1260 concentration of 37.7 ppm [Reference 2, Pp. 5-32].

Soil samples were also collected in the alleyway between the site and the residence. Sample AO1 had the highest Aroclor 1260 concentration of 5.7 ppm in the 0-6 inch interval and 48.2 ppm for the 12-18 inch interval. Sample AO2 had the highest Aroclor 1260 concentration of 852 ppm at the 6-12 inch interval and a concentration of 115 ppm for 18-24 inch interval. Both of these sample locations are located across the outside storage area for the transformers and down gradient from the site (Figure 3- Sample Results Map).

The highest concentration of Aroclor 1260 found on site was 1590 ppm. It was a grab surface soil sample collected near the gate located on the east side of the property. Another grab surface soil sample was

collected just outside the east gate with a concentration of Aroclor 1260 of 2730 ppm. This location is outside the fenced perimeter of the site and is assessable to the public. A grab soil sample was also collected at the location of the culvert and the analytical results showed the third highest concentration of PCB Aroclor 1260 with a 50.9 ppm concentration (Figure 3).

3.0 GROUND WATER PATHWAY

3.1 Hydrogeologic Setting

Fannin County lies along the physiographic boundary between the Grand Prairie (to the west) and the Black Prairie (to the east) [Reference 4, pg. 4]. Geologically this area is characterized by transgressive and regressive outcrops of formations. The Austin group from Upper Cretaceous deposits outcrops in Fannin County. Underlying the Austin Chalk is the Eagle Ford Shale Formation (300-400 feet thick) and then the Woodbine Formation, these formations are primarily composed of limestones, shales and sandstones respectively.

The Woodbine Formation is the primary water supply in the area of Frank J. Doyle Transformer site and is considered a minor aquifer by the state of Texas. The depth to water in the Woodbine ranges from 432-449 feet below land surface (bls) in Fannin County [Reference 5, pp. 6-9].

3.2 Ground Water Targets

There are three wells within a one mile radius of the site. Two of the three wells (701 and 702) are used for public drinking water supply. The third well (9B) is a private well and is approximately 0.75 miles to the northwest of the site [Reference 5, pg. 2].

The city of Leonard obtains its water from two wells (701 and 702) which are completed in the Woodbine Aquifer. Well 701 is located on the corner of Wells / Ex. 9 which is approximately 0.2 miles southwest of the site and well 207 is approximately 0.75 miles northwest of the site [Reference 5, pg. 2]. According to the well logs, the Austin Chalk was encountered at 2 feet bls, the average depth of the screened interval is 1464 bls and the total average depth of the two wells is 1697 feet bls [Reference 5, pp. 7-17]. During the site reconnaissance it was learned that the two wells are both pumped into a single underground holding tank therefore creating a blended system [Reference 6, pg. 1]. A Texas Department of Health water analysis was obtained for the two wells 701 and 702. The laboratory analysis

revealed that as of March 17, 1995 the city's water was not tested for PCB [Reference 7, pg. 2].

In order to apportion the population of Leonard using the city water system, the total population of Leonard within a one mile radius of the site (1503 people) was distributed evenly between the two wells that supply drinking water to the systems [Reference 8, pg. 1]. One well (701) is located within a quarter mile radius of the site [Reference 5, pg. 2]. Therefore, half the population of Leonard (753 people) are attributed to the use of well 701. The other well that comprises the blended system is located within the quarter mile to half mile radius of the site. A private well is located within the half mile to one mile radius of the site. Therefore, one residential home is assumed to use this well as a source for drinking water. The number of people in that home is estimated at 3 people using the population density factor of 2.48 for Fannin county [Reference 9, pg.2].

The number of domestic wells located outside of the one-mile distance was undetermined. Therefore, the number of people using the water outside of the one mile radius of the site was determined by counting the number of homes located on the topographic map (Figure 4-- Four mile Radius Map). The number of homes located from the one to four mile distance categories were multiplied by the population density factor of 2.48 persons/household for Fannin county [Reference 9, pg. 2]. The following table lists the number of domestic and public well water users within each distance category.

Distance from site (mi)	Number of people using ground water
0-1/4	752
1/4-1/2	751
1/2-1	3
1-2	233
2-3	215
3-4	253

3.3 Ground Water Conclusions

A release of PCB's into the groundwater is not suspected because the blended system of drinking water for the city of Leonard was analyzed on March 17, 1995 for various hazardous substances by the Texas

Health Department. However, this analysis contains no results for the PCB compounds. The two wells that comprise the blended system are properly installed and securely cemented to the slotted screen which is at an average depth of 1464 feet bls. Due to the low permeability of the underlying formations at the site, the depth of water at each of the public supply wells and the fact that PCB's are relatively insoluble in water and not likely be mobilized, it is not likely that PCB's could contaminate the ground water supply of the City of Leonard.

4.0 SURFACE WATER PATHWAY

4.1 Hydrogeologic Setting

A drainage ditch is located along the western boundary of the site. During the site reconnaissance it was observed that a culvert was located just north of the main gate of the Doyle Transformer property. Inside the fence there was a low lying area where surface run-off from the site flows into a culvert that drains into the drainage ditch that is located along the western fence of the property (Photo #6). An engineer from Hayden Engineers, the company used design the storm sewer system for the city of Leonard, stated that the city has few storm sewers and the majority of the city's runoff is directed out of the city via drainage ditches [Reference 10, pg. 1]. Some of the runoff is directed south and the rest is directed west out of the city. Approximately 0.5 miles southwest of the site lies Boney Creek, which is a small tributary of Lee Creek. Boney Creek is an intermittent creek which is approximately one mile long and drains into Lee Creek. Lee Creek is also intermittent and is approximately four miles long. Other creeks located within a two mile radius of the site are Arnold Creek and Sulphur Creek. Arnold Creek is approximately 1.5 miles south and Sulphur Creek is located one mile east of the site. These creeks are both intermittent (Figure 4-Four Mile Radius Map).

4.2 Surface Water Targets

Based on the site reconnaissance and review of the topographic maps no wetlands were identified within a four mile radius of the site. During the site reconnaissance and confirmation of the topographic map, there are no signs of a perennial stream within the 2 mile downstream distance of the site. The topographic map confirms that the nearest stream, Boney Creek is an intermittent stream. By definition of an intermittent stream, Boney Creek does not have enough water capacity be a source of recreation or a

source for drinking water. Since there were no perennial surface waters identified within the two mile downstream distance, no surface water targets were identified.

4.3 Surface Water Conclusions

The only drainage observed onsite was from a drainage ditch located on the western boundary of the property. During the site reconnaissance, there were no creeks or wetlands observed within a 2 mile downstream distance of the site. The topographic map of the area confirms that Boney Creek, located 0.5 miles southwest of the site is an intermittent stream. Since there are no perennial streams within a two mile downstream distance of the site, a threat to human health and the environment via the surface water pathway is not suspected.

5.0 SOIL EXPOSURE AND AIR PATHWAYS

5.1 Physical Conditions

The Frank J. Doyle Transformer site is completely fenced and has secured locks on all the gates. The ground cover consists of a mixture of gravel and concrete. The ground inside the shop and the entrance into the main gate is covered with concrete. The rest of the salvage yard is covered by gravel except for the concrete containment area located in the southwest corner of the property. The pad was used to store sixteen 55-gallon drums. Of the sixteen drums only one drum was labeled as "Non-PCB", the remaining drums were not labeled (Photo #3). The concrete pad showed signs of deterioration (Photo # 12). The pad is located adjacent to a concrete containment area that contains two 500 gallon storage tanks and one 375 gallon tank (Photos #10 & 11) Inside this concrete containment area, there was a rusted 55 gallon drum that was marked as corrosive (Photo #10). It was observed and later confirmed by Mr. Doyle that this was the location where waste oil from the transformers is stored prior removal (Photo #12). The used oil is vacuumed out of the holding tanks by a transportation company named Scroggins which is out of Oklahoma [Reference 11]. There was evidence of spilled or leaking oil near the concrete containment area on the day of the site reconnaissance and a yellowish/green staining along the fence line near the

disposal point (Photo #10). Prior environmental assessments that were conducted on and off-site have revealed PCB contamination in the soils. The laboratory results of the soil samples collected on and off-site are discussed in section 2.3.

5.2 Soil and Air Targets

Frank J. Doyle Transformer is underlain by the Fairie-Dalco soil association. This association is characterized by nearly gently sloping, moderately well drained, very slowly permeable clayey soils overlying chalky limestone [Ref. 14, pp. 1-7]. PCB's are known to be relatively insoluble in water and resistant to chemically breaking down. The Texas Natural Conservation Commission action level for all PCB compounds is 50 ppm [Reference 12, pg. 4].

During the site reconnaissance, Mr. Gary Doyle stated that a maximum of three employees have worked on site since 1974. This does not include subcontractors such as truck drivers, delivery personnel and waste haulers. Leonard High School, which has approximately 225 students attend, is located less than 200 feet to the east. Adjacent to the High School is the Leonard Junior High School, which approximately 200 students attend. South of the Frank J. Doyle Transformer site within the quarter mile radius, lies an elementary school with an attendance of approximately 300 students [Reference 13, pg. 1]. On the day of the site reconnaissance, it was observed that there were numerous students of all ages walking along the alleyway, which lies adjacent the west fence boundary of the site. Earlier reports indicated that the Project Life Day Care facility was located south and adjacent of the site, however it was noted during the site reconnaissance that the day care is no longer in business and this facility is now a residence.

The number of people living within a four mile radius of the site was calculated by the population of the city of Leonard and the number of homes within that distance category. The population of the city of Leonard is estimated at 1503 [Reference 8]. The number of homes, was determined by a house count using the topographic map (Figure 4). The number of homes within the radius was then multiplied by the population density factor of 2.48 for Fannin County [Reference 9, pg. 2].

Distance from site (mi)	Number of Homes within the area	Number of people living within the area
0-1/4	100	248
1/4-1/2	90	223
1/2-1	133	330
1-2	94	233
2-3	87	215
3-4	102	253

5.3 Soil Exposure and Air Pathway Conclusions

Soil exposure appears to pose a threat at the Frank J. Doyle Transformer site because of the identified presence of PCB in the soil, the nearby residential population and a High School located within 200 feet. A release to the air can be suspected because the transformer site was registered with the state of Texas for ash residue from a furnace that was used to remove varnish from copper wire intended for salvage. However, on the day of the site reconnaissance there were no signs of airborne contaminants or debris. The ground cover is a mixture of gravel and concrete and void of vegetation. However, during the site reconnaissance, no odors were detected and there was no indication of blowing dust or soil.

6.0 SUMMARY

Mr. Frank J. Doyle has owned and operated Doyle Transformer Salvage from 1974 until January 1997 when his son, Mr. Gary Doyle took over the business operations. Mr. Frank J. Doyle stored used oil from the transformers in holding tanks and 55 gallon drums on a concrete pad prior to transport and disposal.

Reports on sampling inspections conducted by the TAT on October 12, 1990 and April 19, 1991, and by the EPA on July 20, 1990 and September 7, 1994 could not be obtained. However, TAT collected an additional 68 samples from both on and off-site locations. Detections of Aroclor 1260 at off-site residences showed concentrations ranging from 10.44 to 37.7 ppm. The analyses of soil samples collected in the alleyway between the site and the residence north of the site showed concentrations ranging from 5.7 to 852 ppm for Aroclor 1260. On-site analytical results indicate the presence of Aroclor 1260 at concentrations ranging from 50.9 to 2730 ppm.

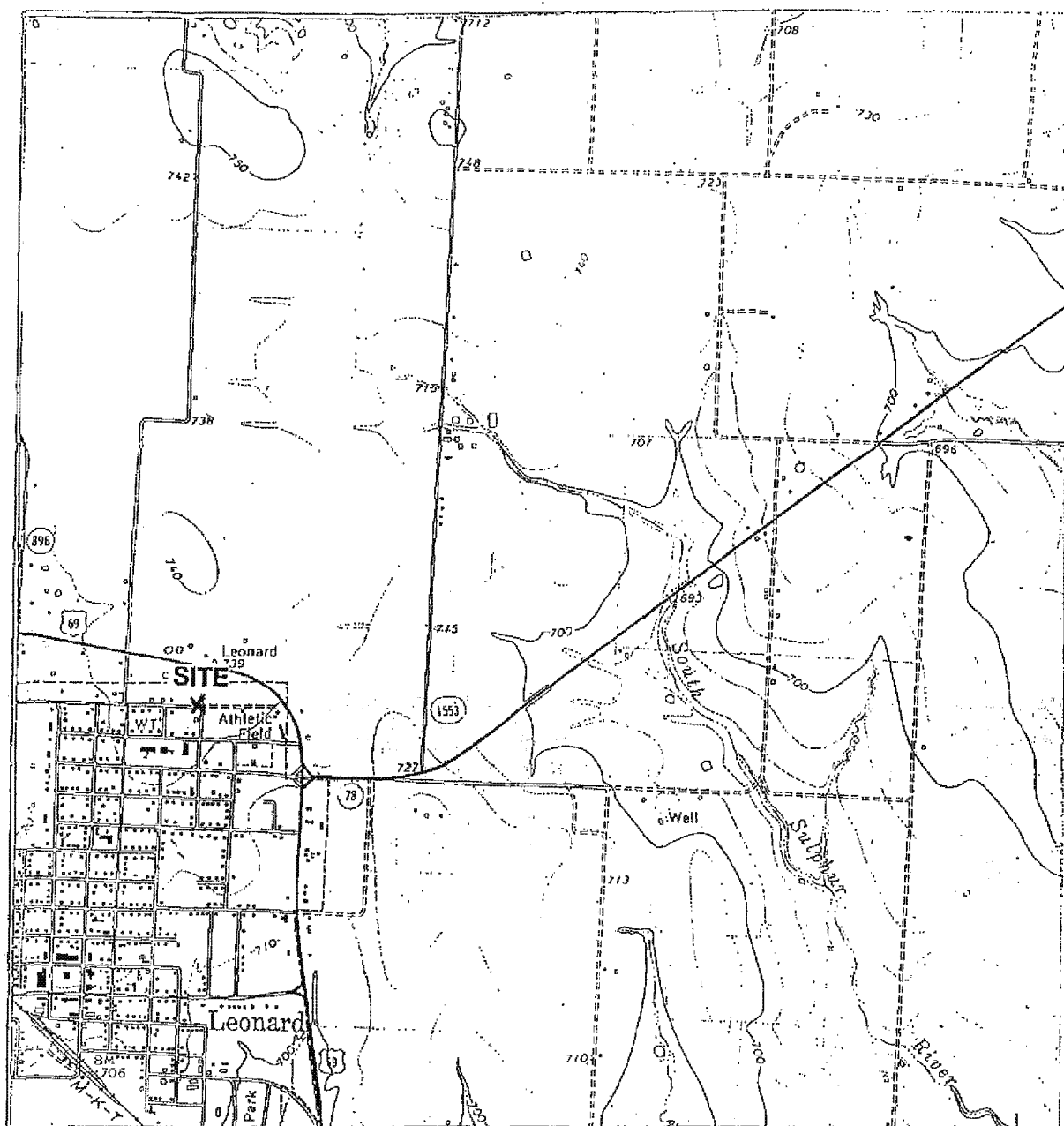
A release of PCBs into the city of Leonard's drinking water via the two public wells near the site is not suspected due to the lithology of the underlying formations and the depth to water in the wells precluding contaminant migration. A perennial surface water body is not located within two miles of the site. Therefore, a threat to human health and the environment via the surface water migration pathway is not likely. Soil exposure appears to be the primary pathway of concern at the Frank J. Doyle Transformer site because of the already identified presence of PCB in the soil, the nearby residential population, and the nearby presence of three schools within 1/4 mile. A potential for a release via the air migration pathway is likely due to the presence of 248 people within 1/4 mile, lack of vegetative growth on or around the outer perimeter of the site, and the former registration of the site with the state of Texas for ash residue that was released from a furnace. This furnace was used to remove varnish from copper wire intended for salvage.

7.0 REFERENCES

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2. Ecology and Environment Site Assessment Report, Prepared for Doyle Transformer Salvage. August 31, 1995.
3. Texas Water Commission, Industrial Solid Waste Management Inventory Initial Notification, January 1, 1986.
4. Jordan, Terry G., Environment and Environmental Perceptions in Texas, American Press, Boston, Massachusetts, 1980.
5. Geosource Incorporated, Water Well Review for 305 E. Cottonwood. May 7, 1997.
6. Logbook of Field Activities. Prepared by: Wendy B. Bigley, Fluor Daniel, Doyle Transformer operations, TXD980865109, May 20, 1997.
7. Texas Department of Health, Bureau of Laboratories, laboratory data on blended drinking water, March 17, 1995.
8. Record of Telephone Conversation. From: Wendy B. Bigley, Fluor Daniel. To: City Clerk at Leonard City Hall. Concerning: Population of Leonard. May 28, 1997.
9. U.S. Bureau of Census. 12th Ed. County and City Data Book. 1994
10. Record of Telephone Conversation. From: Wendy B. Bigley, Fluor Daniel, Inc. To: Hayden Engineers. Concerning: Storm water drainage for the City of Leonard. May 28, 1997.
11. Texas Water Commission request for Texas Waste Code and Authorization for Shipment of waste. Not dated.
12. Texas Natural Resource Conservation Commission. Chapter 335. Industrial Solid Waste and Municipal Hazardous Waste. March 1996.
13. Record of Telephone Conversation. From: Wendy B. Bigley, Fluor Daniel, Inc. To: Leonard High School Secretary. Concerning: Attendance of Leonard schools. May 2, 1997.
14. U.S. Department of Agriculture, Natural Resources Conservation Service. Soil Survey Information, Not dated.

Figure 1
Site Location Map

A:\DOYLERPT.WP



Note:USGS 7.5' Topographic Map, Leonard, TX Quadrangle, 1964.



FLUOR DANIEL

FIGURE 1

SITE LOCATION MAP

Doyle, Frank J.

EPA ID No. TXD980865109

Leonard, Collin County, Texas

Figure 2
Site Sketch

A:\DOYLERPT.WP

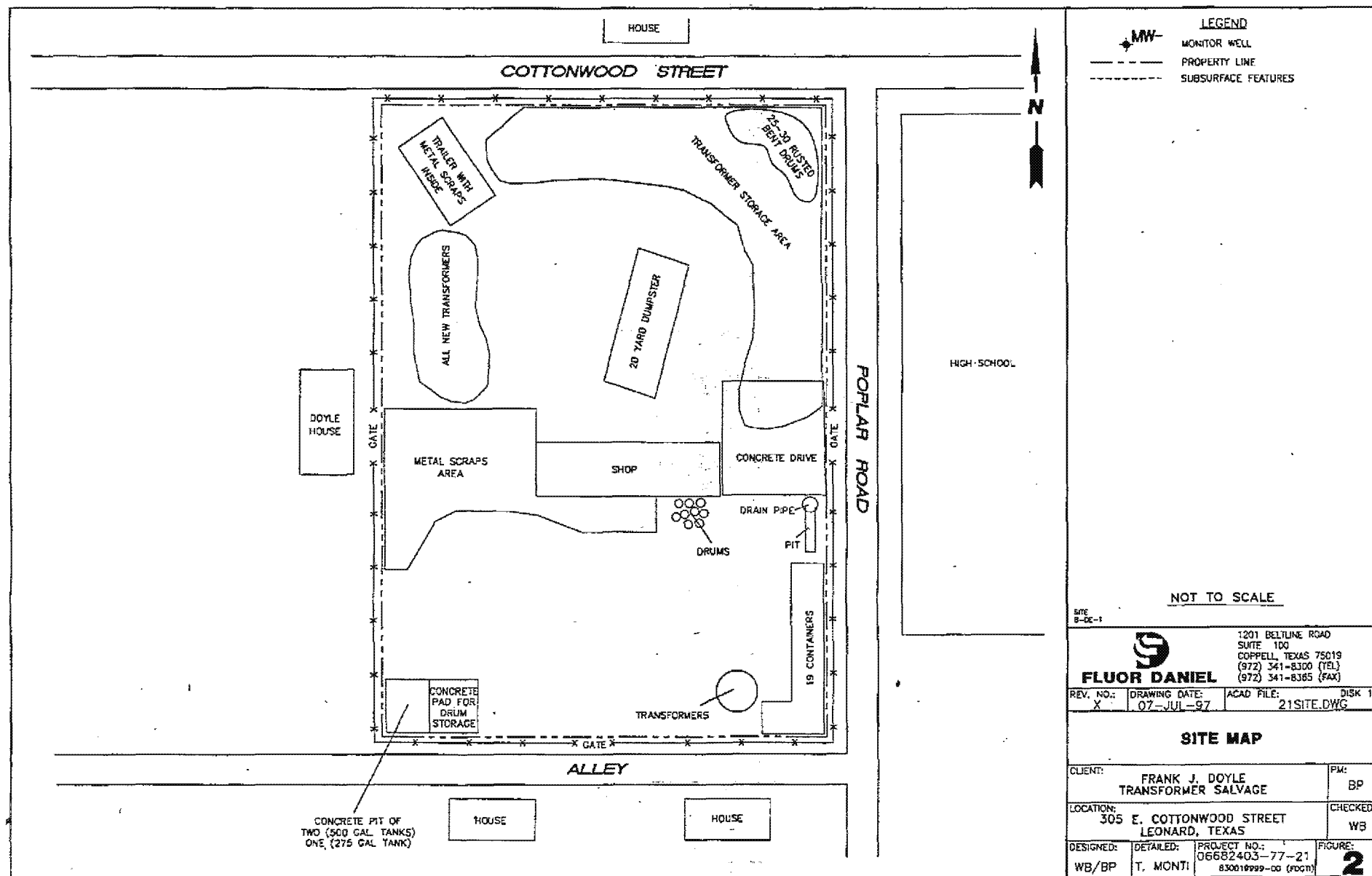


Figure 3
Sample Location Map

A:\DOYLERPT.WP



Ecology and environment, inc.
Dallas, Texas
International Specialists in the Environment

SAMPLE RESULTS MAP
DOYLE TRANSFORMER SALVAGE
CERCLIS # TXD980865109

TD# T06-9507-002	Date: JULY 12, 1995
PAN# ETX1204SCA	PN: MELISSA STALLINGS

Figure 4
Four Mile Radius Map

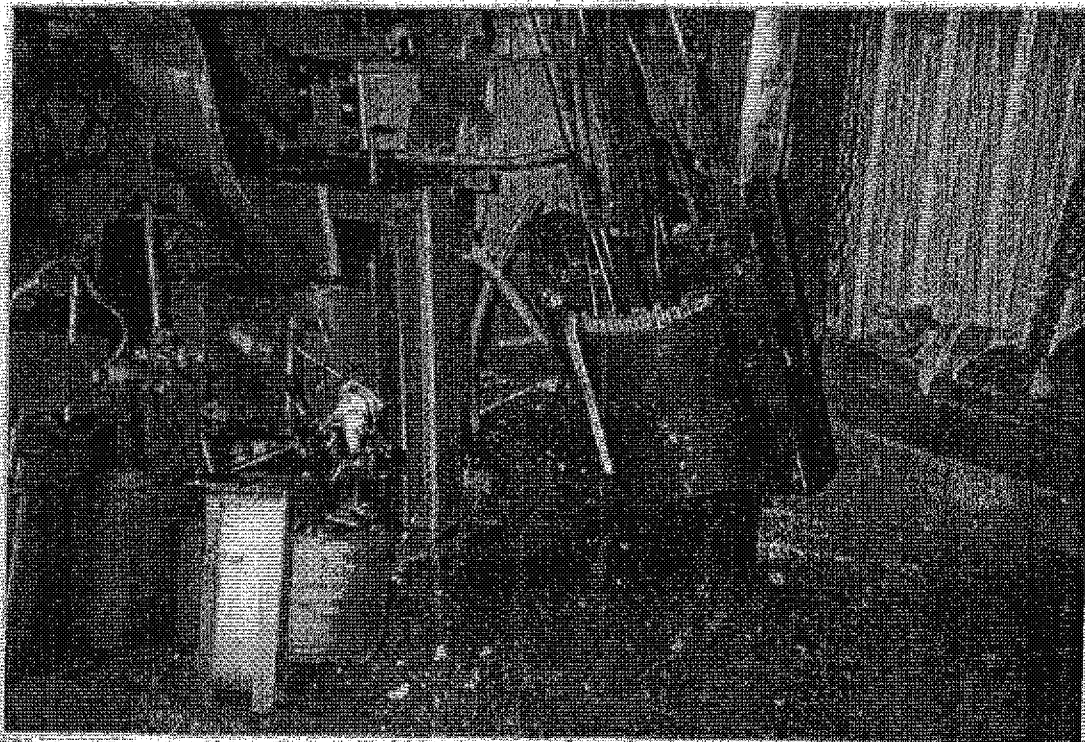
A:\DOYLERPT.WP

ATTACHMENT 1

PHOTOGRAPHIC DOCUMENTATION

A:\DOYLERPT.WP

Photo No.
3
Neg. No.
1



Site Name:

Frank J. Doyle Transformer

Photographer/Witness W. Bigley / K. Westberry

Location:

Date

5/20/97

Time

10:37

Direction

North

303 E. Cottonwood Street

Description

The inside of the shop showing a draining table used to drain oil out of salvaged transformers.

Leonard, Texas

Project #

06682403-77-13

Page 1

Of 7

Photo No.
5
Neg. No.
4



Site Name:

Frank J. Doyle Transfer Station

Photographer/Witness

W. Edgar K. Wimbush

Location:

Date

5/20/97

Time

10:35

Direction

East

306 E. Cotabambas Street

Description

The subject located inside the perimeter of the fence boundary.

Leonard, Texas

Project #

00002453-77-13

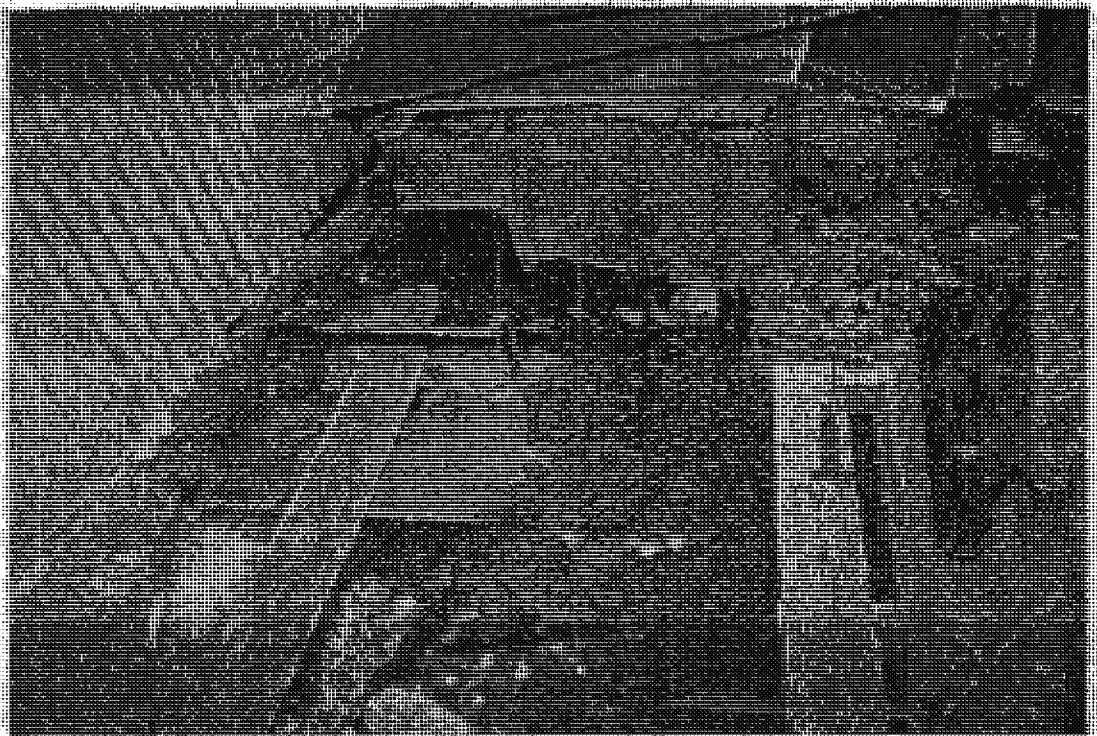


Photo No.
1
Neg. No.
2

Photographer/Witness

W. Edgar K. Wimbush

Date

5/20/97

Time

10:30

Direction

East

Description

Soil stains located outside the area. Notice the deterioration of the of the metal building.

Page 2

of 7

Photo No.
8
Neg. No.
6



Site Name:
Frank J. Doyle Transformation

Photographer/Witness ☒ W. Bigley/ ☒ K. Westberry

Location: 305 E. Cottonwood Street, Leonard, Texas
 Date: 5/20/97 Time: 10:30 Direction:
 Description: Yellowish/green staining on the ground located outside the shop.
 Project #: 06882403-77-13

Photo No.
9
Neg. No.
7

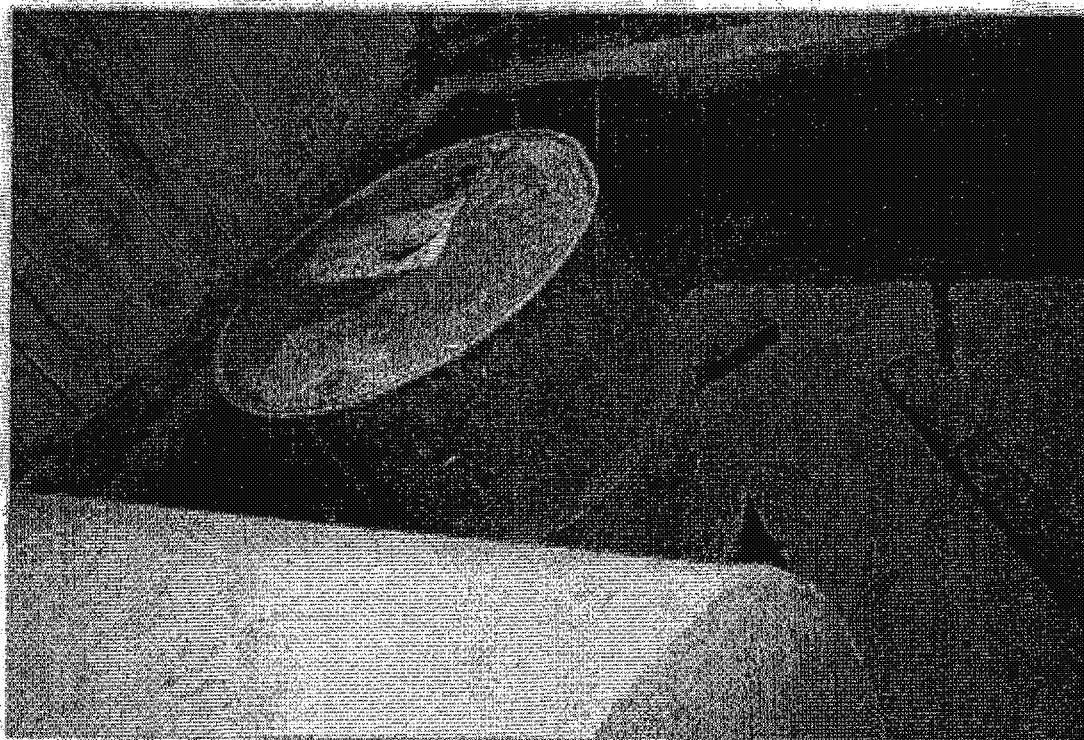


Photographer/Witness ☒ W. Bigley/ ☒ K. Westberry

Date: 5/20/97 Time: 10:30 Direction: East
 Description: The south side of the shop. Soil staining was located near the debris pile.

Page 3
Of 7

Photo No.
10
Neg. No.
8



Site Name:

Frank J. Doyle Transformer

Photographer/Witness W. Bigley/ K. Westberry

Location: Date 5/20/97 Time 10:27 Direction Northwest

305 E. Cottonwood Street Description View of the drum marked as corrosive inside the tank pit holding area,

Leonard, Texas

Project #

06682403-77-13

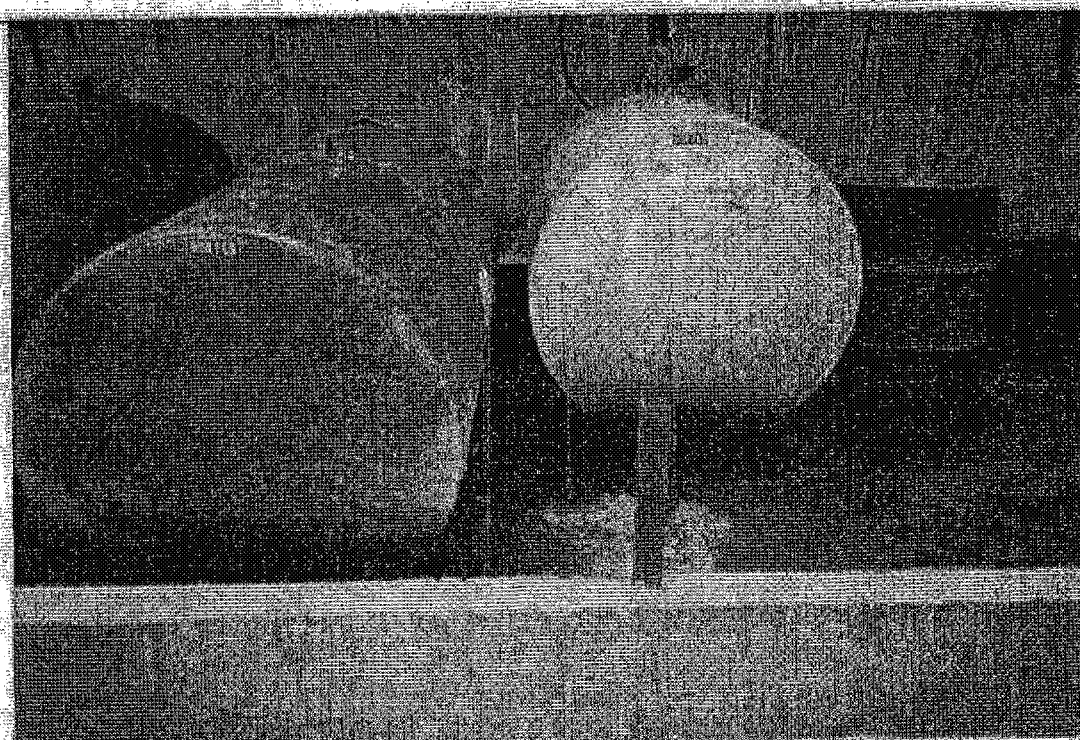


Photo No.
11
Neg. No.
9

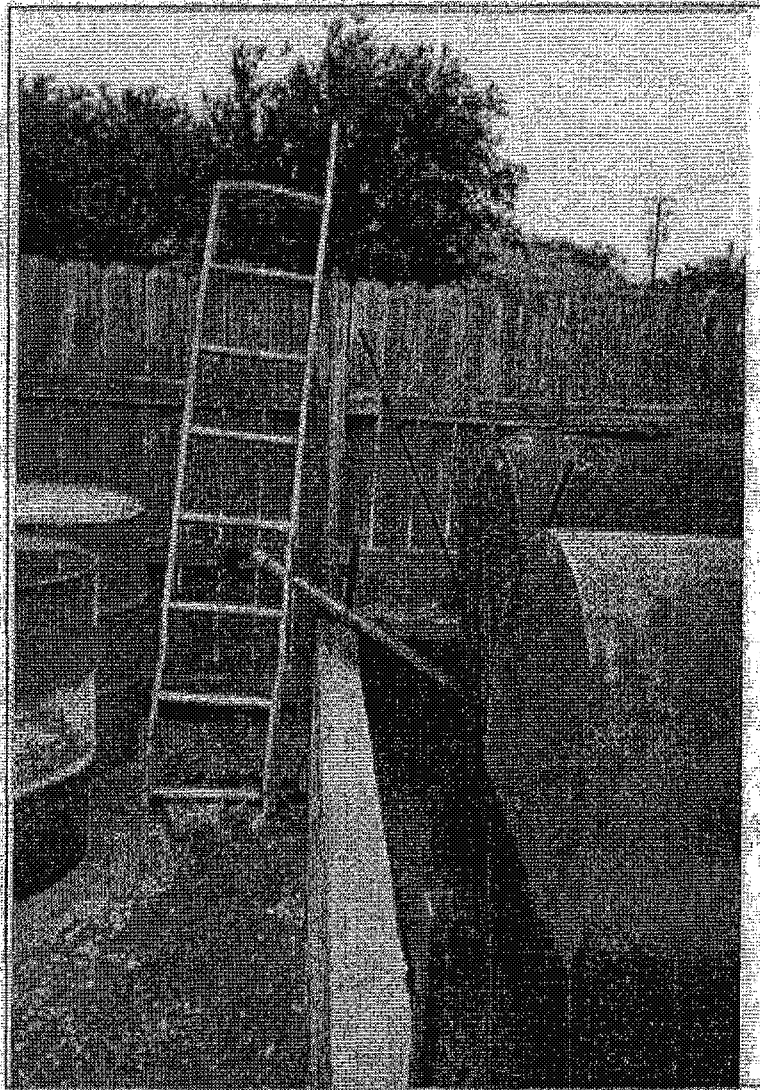
Photographer/Witness W. Bigley/ K. Westberry

Date 5/20/97 Time 10:26 Direction West

Description View of the tank hold area. Two 500 gallon and one 375 gallon storage tanks are inside a cement pit.

Page 4
Of 7

Photo No.
12
Neg. No.
10

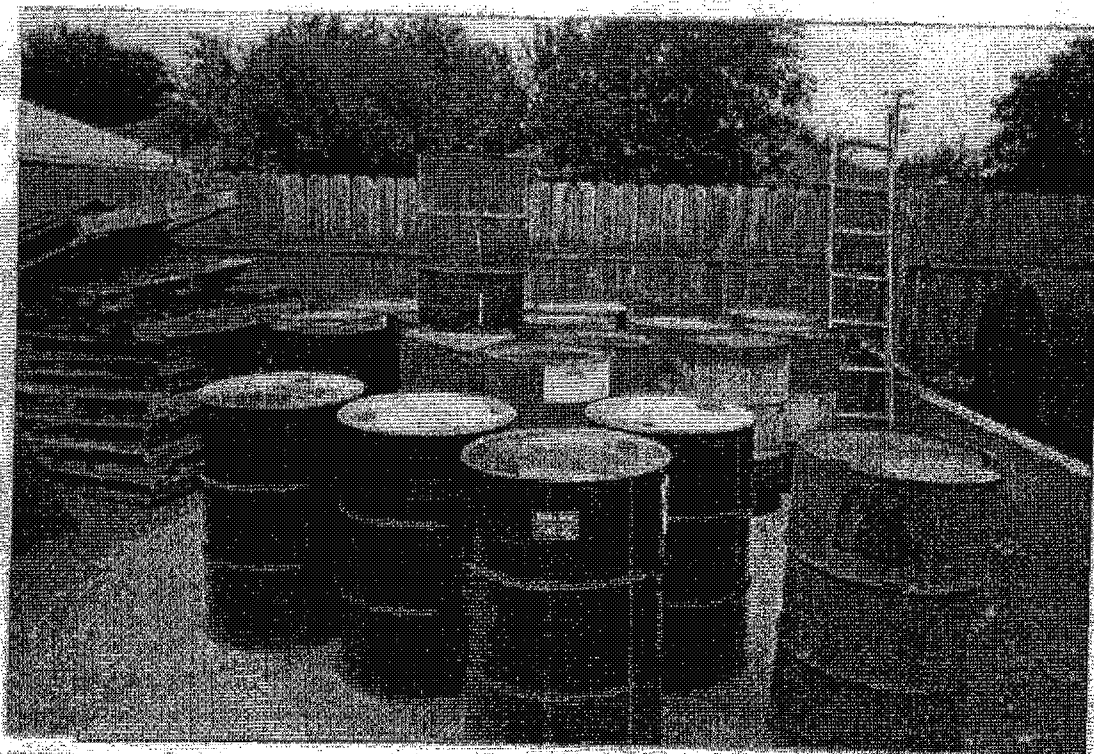


Site Name: Frank J. Doyle Transformer
Location: 305 E. Cottonwood Street
Project #: 06682403-77-13

Photographer/Witness: W. Bigley / K. Westberry
Date: 05/20/97 Time: 10:25 Direction: North
Description: Waste oil containment structure. Also shown is the location of waste collection for off-site disposal.

Photo No.
13

Neg. No.
11



Site Name:

Frank J. Doyle Transformer

Photographer/Witness

W. Bigley/K. Westberry

Location:

Date

5/20/97

Time

10:25

Direction

North

305 E. Cottonwood Street
Leonard, Texas

Description

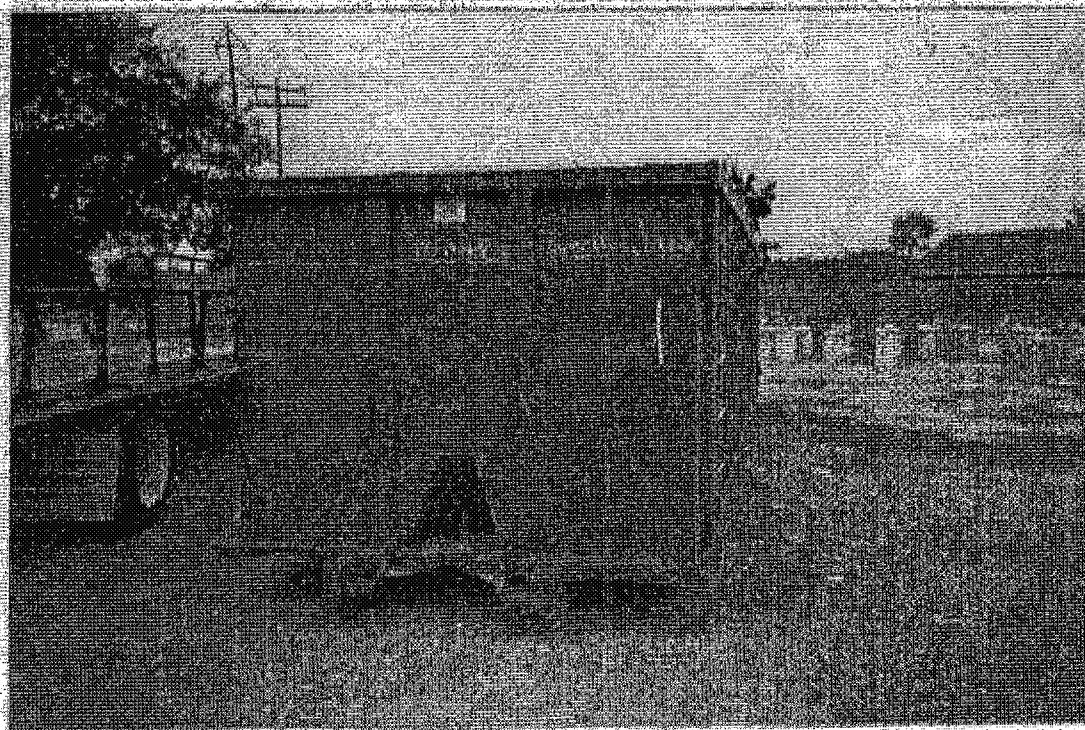
The southwest corner of the site. Location where sixteen 55 gallon drums are stored on a concrete pad.

Project #

00682403-77-13

Photo No.
15

Neg. No.
13



Photographer/Witness

W. Bigley/K. Westberry

Date

5/20/97

Time

10:20

Direction

South

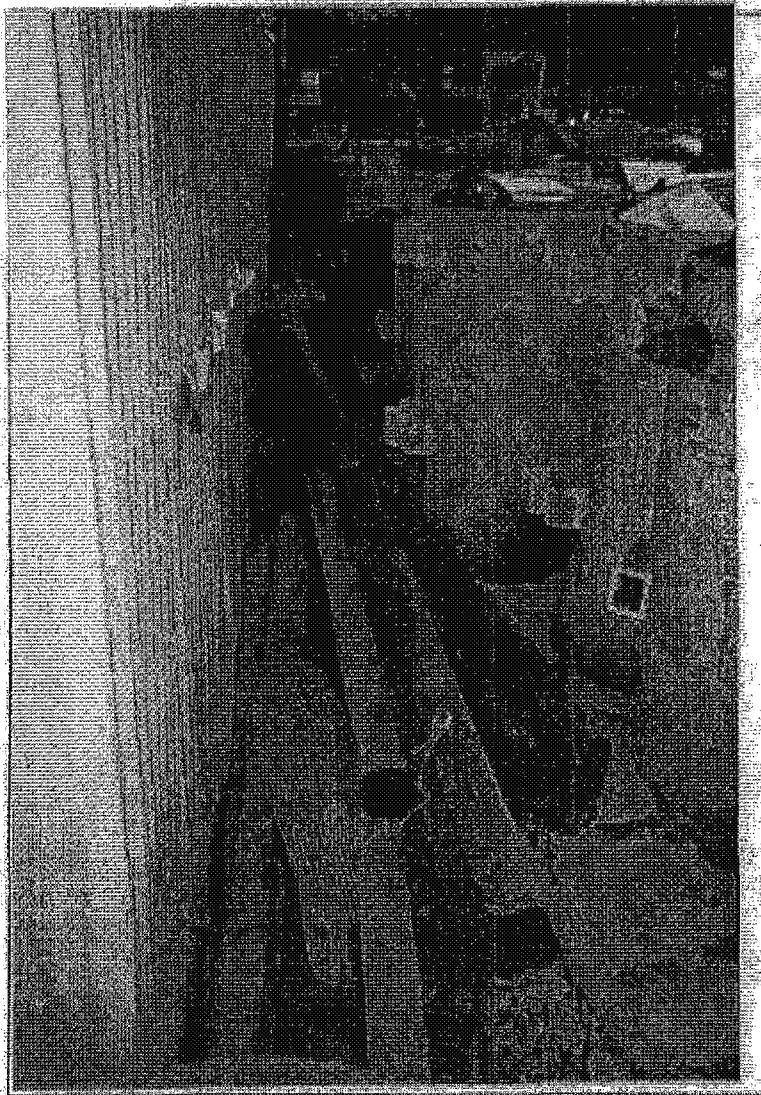
Description

A 20 yard dumpster used to store general refuse.

Page 6
Of 7

Photo No.
16

Neg. No.
15



Site Name: Frank J. Doyle Transformer
Location: 305 E. Cottonwood Street
Project #: 06682403-77-13

Photographer/Witness W. Bigley/ K. Westberry
Date: 05/20/97 Time 10:30 Direction East
Description View along the north side of the shop. Note the staining and the condition of the transformers.

SWR 80951

partial pdf in 80951 on drive

"Pages from Screening Site Inspection
Report smaller first half.pdf"

Ril Robertson 6/17/10
email



TNRCC

Protecting Texas
by Reducing and
Preventing Pollution

Screening Site Inspection Report

for

Doyle, Frank J. Transformer Site; aka:

Frank J. Doyle Transformer

TXD980865109

Leonard, Fannin County, Texas

**Prepared in cooperation with the
U.S. Environmental Protection Agency**

August 1998

910274



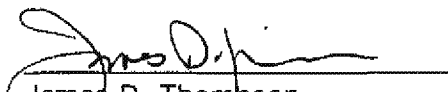
SCREENING SITE INSPECTION REPORT

Doyle, Frank J. Transformer Site; aka:
Frank J. Doyle Transformer

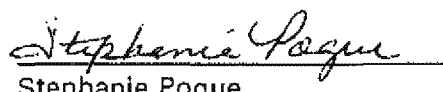
Leonard, Texas

TXD980865109

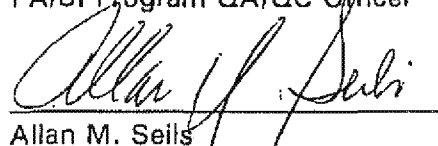
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James D. Thompson
Texas Natural Resource Conservation Commission
Site Investigation Manager

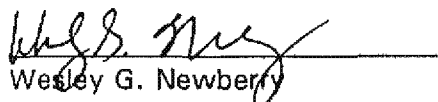
29 June 1998
Date


Stephanie Pogue
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SSI Report

**Doyle, Frank J. Transformer Site; aka:
Frank J. Doyle Transformer
Leonard, Fannin County, Texas
TXD980865109**

Prepared in cooperation with the
U.S. Environmental Protection Agency

Prepared by
Texas Natural Resource Conservation Commission
Site Assessment Section
Site Discovery and Assessment Program Staff
Austin, Texas

September 1998

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through grants from the U.S.
Environmental Protection Agency.

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SDG MFHL94, 8FAXDW0201 - 8FAXDW0205 and Case No.
25725 (Decon #14), SDG FEY35 and SDG MFGQ96)

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NOTE

The State predecessor agencies: Texas Water Quality Board (TWQB), Texas Department of Water Resources (TDWR), Texas Water Commission (TWC), and Texas Air Control Board (TACB), referred to throughout this report are now known as the Texas Natural Resource Conservation Commission (TNRCC). The new agency, TNRCC, became effective September 1, 1993, as mandated under State Senate Bill 2 of the 73rd Regular Legislative Session.

SECTION 1

INTRODUCTION

The Texas Natural Resource Conservation Commission (TNRCC) has been requested by the U.S. Environmental Protection Agency (EPA) Region VI to conduct a Screening Site Inspection (SSI) at the Doyle, Frank J. Transformer Site; aka: Frank J. Doyle Transformer (EPA Identification number TXD980865109). The site is currently an active registered industrial solid waste generator and transporter facility (Solid Waste Registration No. 80952) that conducts salvage operations by stripping out-of-service power transmission transformers for recoverable metals. The facility has been owned and operated by Frank J. Doyle since 1974 until his retirement in January 1997 when operations transferred to his son, Gary Doyle. The owner lives adjacent to the site.

The site consists of approximately 0.6 acres located at 305 E. Cottonwood Street in northeast Leonard (pop. 1,744 - 1990 Census), Fannin County, Texas. The facility consists of a single office/shop with surrounding yard storage areas surrounded by a continuous wooden fence. The owner maintains a bermed concrete pad for 55-gallon drums and oil storage tanks (1-375-gal and 2-500-gal) for drained fluids. The facility uses a high-temperature oven to burn residual oils, paper and varnish from copper and aluminum transformer cores generating stack emissions and residual ash. The facility is a registered emission source and maintains an air operating permit under Texas Air Control Board (TACB) Air Operating Permit No. T-18612, with special provisions pertaining to maximum allowable polychlorinated biphenyls (PCBs), use of chlorine-containing wire insulation or building wire, no visible emissions and cleaning oven minimum/maximum operating temperatures with restricted fuel sources.

As a result of residential concerns, an EPA Technical Assistance Team (TAT) collected 94 soil samples at the facility from July 10-12, 1995, revealing elevated PCBs (Aroclor 1260) in soils ranging from 1.57 mg/kg to 2,730 mg/kg. The highest concentrations were detected adjacent to the south gate where large transformers are stored prior to salvaging operations. Other areas containing PCB contamination > 50 mg/kg included the east side transformer storage area, the southwest tank storage area and areas along the south alleyway. Lower level PCBs were detected in the adjacent residential yard located 40' south of the site, the owner's yard and in an on-site transformer off-load area. During a May 20, 1997 EPA Preliminary Assessment (PA) site reconnaissance inspection, yellowish/green stains were noted in soils adjacent to the wooden fence line and the shop walls showed signs of metal sidewall deterioration. The full extent of PCB contamination in soils adjacent to the facility had not been established. Whether PCB contamination had entered a public supply drinking water well located 0.25 miles south of the site had not been determined.

SITE OBJECTIVE WITH RESPECT TO THE PREREMEDIAL PROCESS

The preremedial stage of the Superfund process involves a PA and a site inspection (SI) stage consisting of an SSI and, if necessary, a Hazard Ranking System (HRS) Documentation Record. This SSI is being conducted to determine if the above-

referenced site is eligible for proposal to the National Priorities List (NPL) under the Federal Superfund Program. The SSI will focus on assessing the threats along the groundwater and soil exposure pathways within and adjacent to the site.

A PA has already been completed for the site. This SSI will build upon existing environmental data by obtaining additional background information relevant to the site through a file review and by collecting environmental samples to further characterize conditions at the site. Sampling conducted during the field work will attempt to document hazardous substance migration to and from the site from potential sources, and look for evidence of actual human and environmental exposure to contaminants. Results will be used to determine whether the site will move forward to a HRS Documentation Record or be designated as "no further remedial action planned."

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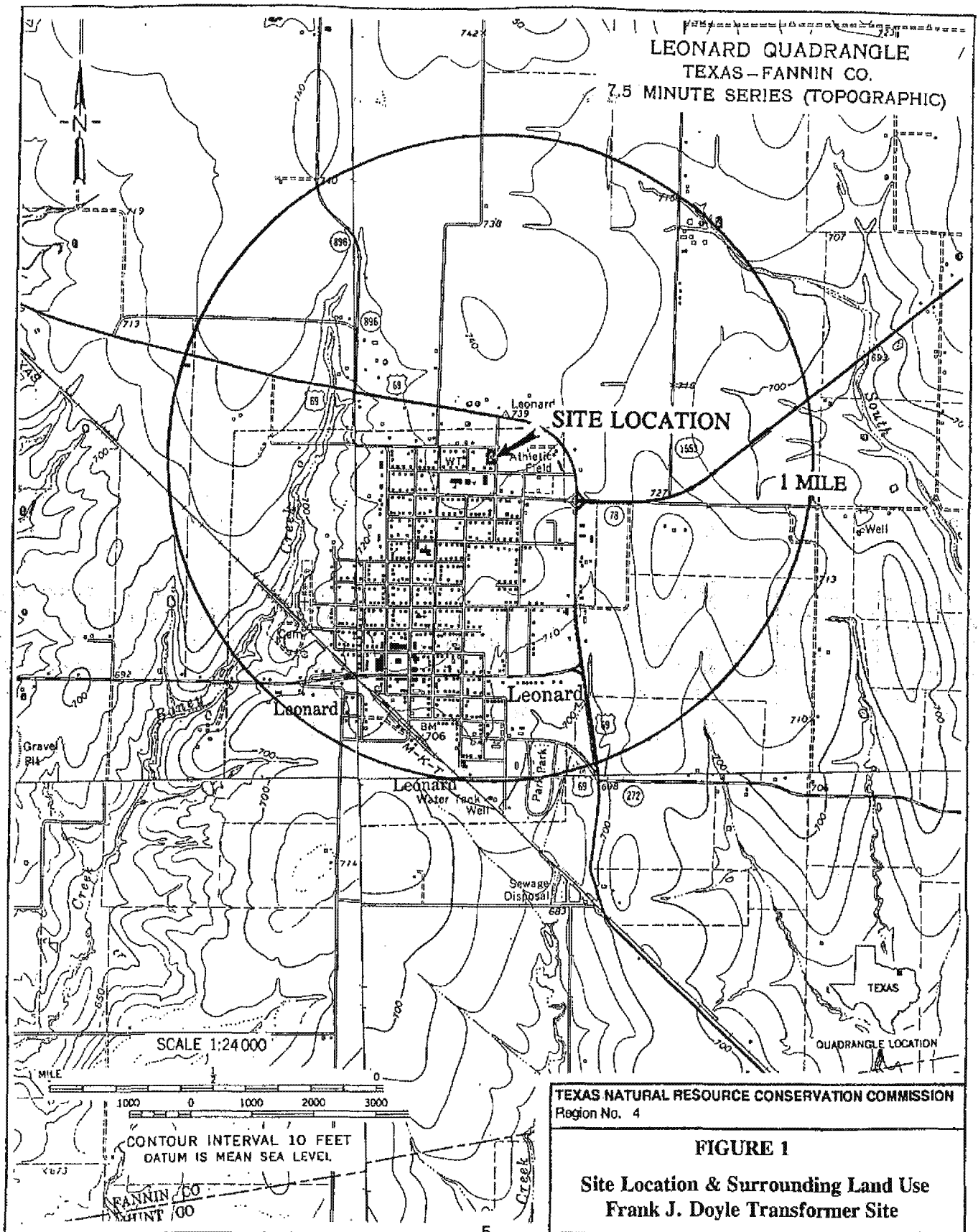
SECTION 2 SITE BACKGROUND AND DESCRIPTION

Site Information

The Doyle, Frank J. Transformer Site, aka Frank J. Doyle Transformer, is an active registered salvage yard that receives and processes out-of service power transmission transformers for recoverable metals. The site is located at 305 East Cottonwood Street in northeast Leonard (population 1,744, 1990 Census), Fannin County, Texas, as shown in Figure 1. The geographic coordinates of the site are Latitude 33° 23' 23" North, Longitude 96° 14' 34" West (ref 5, page 1). The site is bordered to the north by Cottonwood Street and a residential area, to the east by Poplar Street and the Leonard High School facility (225 students), to the south by an alleyway and two more residences, and along the western boundary by the owner's residence. Located less than 0.25 miles to the southwest are the Leonard Elementary School with 300 students and the Junior High School with 200 students (ref 5, pages 1 and 8). One of the facilities located southwest of the site is the school district day care center with play areas for small children and the nearest residence has a pony pen where small children frequently congregate (ref Appendix B, page 8).

The site consists of approximately 0.6 acres surrounded by a 6' wooden perimeter fence. The only structure is an office/shop where transformers are drained and stripped that contains a small oven used to bake removed transformer cores. Various yard storage areas surround the shop. There are three access gates located on the east (main entrance), south and west perimeter, which are normally locked after business hours. The facility is owned by Frank J. Doyle, who resides west of the facility, and the site is currently operated by his son, Gary Doyle. The shop yard is gravel-covered with a concrete driveway at the east entrance. A bermed concrete pad located in the southwest corners contains 55-gallon drums and oil storage tanks (1 x 375-gal and 2 x 500-gal) used to accumulate drained liquids (ref 5, page 1).

The facility receives used power transformers shipped from various companies located in Texas, Oklahoma, Louisiana and Arkansas that are off-loaded and stored on site. Residual oil is pumped from the transformer casings and placed in storage tanks located in the bermed concrete storage area. The transformer cores are then removed and placed on a draining table to allow any remaining oil to displace, which is placed in 55-gallon storage drums. The drained cores are then placed in an oven to bake off remaining oil, paper and varnish. The baked cores are removed, cooled and stripped for recoverable metals. Accumulated transformer oil is transferred from the storage tanks to trucks and shipped off-site to an authorized disposal/recycling facility by an authorized waste oil transporter (see site photographs #23 thru #31, Appendix A). According to the facility owner, Mr. Frank J. Doyle, the facility only accepted non-PCB filled transformers beginning in the late 1970's; however, prior to then transformer oil was not tested and some of the drained oil had been distributed to various individuals throughout Leonard for use as weed control (ref 5, page 2).



The facility submitted registration as a non-hazardous industrial solid waste generator/transporter (Solid Waste Registration No. 80951) to the Texas Water Commission (TWC) on July 21, 1993, listing the following waste streams: (1) used oil from non-PCB transformers (Waste Code 12061), (2) ash residue from a furnace used to remove varnish from transformer cores (WC 23041), and (3) general plant trash (WC 39012). Listed waste management units included: (1) 1x375-gallon tank, 2x500-gallon tanks and various 55-gallon drum storage containers, (2) a high temperature oven, and (3) a 4-yd dumpster (ref 6, page 2).

On January 21, 1988, the facility applied for a special air operating permit (TACB Special Permit No. S-18612) for authorized operation of an 18,500 Btu/lb cart-loaded Model BB-26 Heat Cleaning Oven manufactured by BAYCO Industries, San Leandro, California to burn off residual oil, paper and varnish from transformer cores (ref 7, pages 1-3, atchs 1-5). After a lengthy public review period with 80 comment letters generated, a meeting was convened at the Leonard High School on March 22, 1988. Based on a comprehensive TACB review conducted on June 27, 1988 and issues discussed during the pre-hearing conference for Contested Case Hearing No. 245, the permit was approved based on Findings of Fact and Conclusions of Law outlined in a subsequent TACB-issued Order No. 88-07, dated July 15, 1988. The order was issued as requested by the facility owner so that opponents identified during hearings could not challenge the permit at a later date (ref 8, atch A, pages 1-10; ref 9, atch 2). On April 22, 1989, an air operating permit (TACB Permit No. T-18612) was applied for, approved and issued effective April 5, 1991, with special provisions as listed below for continued operations of the heating unit (ref 10, page 1 and atch 3):

- (1) maximum allowable oven stack emission rates would be less than:

	<u>#/hr</u>	<u>TPY*</u>
volatile organic compounds (VOC)	0.004	0.002
total nitrogen oxides (NOX)	0.044	0.030
sulphur dioxide (SO2)	0.002	0.0012
particulate matter (PM)	0.030	0.018
carbon monoxide (CO)	0.021	0.013
polychlorinated biphenyls (PCBs)	6.75×10^{-6}	4.05×10^{-6}
		*tons per year

- (2) all combustible material would contain less than 50 ppm PCBs,
- (3) each new source would be test certified to contain less than 50 parts per million (ppm) PCBs within 10 days of securing the new source,
- (4) building wire containing chlorine insulation would not be combusted,
- (5) the TACB and other authorized pollution control programs having jurisdiction could request sampling of any source material at any time,

- (6) no visible emissions (opacity of 5% or less),
- (7) oven operating instructions would be clearly posted,
- (8) fuel sources would be restricted to natural gas, liquefied petroleum gas (LPG) or electrical power,
- (9) combusted material would be less than 10% by weight of the total load,
- (10) ash would not become airborne, and
- (11) the primary combustion chamber temperature would be maintained <800°F and the secondary combustion chamber would be >1400°F.

On July 10-12, 1995, an EPA Technical Assistance Team (TAT) conducted a site investigation for PCB-contaminated soils by collecting 94 surface and subsurface samples from visibly-stained areas on site and from locations outside the facility along the west, south and east perimeters. Adjacent residential yards, the alleyway, and bar ditches located along Poplar Street were sampled to determine the presence and/or extent of PCB contamination. On-site sample results revealed elevated PCBs (Aroclor 1260) ranging from 2.7 mg/kg to 1,590 mg/kg at depth 0"-24" within the gridded areas shown in Figure 2. The highest on-site levels were detected adjacent to the transformer storage area located at the south entrance gate. PCB values >50 mg/kg were detected near the tank storage area located in the southwest corner and near the transformer storage area at the east entrance (ref 5, pages 3-4).

Results from off-site samples indicated PCB-contaminated soils ranging from 1.57 mg/kg to 2,730 mg/kg at varying depths (0"-6", 6"-12", 12"-18" and 18"-24") located outside the perimeter fence, in the alleyway, and in two adjacent residential yards. The isopleths drawn in Figure 2 indicate the approximate extent and level of Aroclor 1260 PCB contamination. The table in Figure 2 indicates the depth interval. The highest off-site levels were detected just outside the perimeter fence adjacent to the transformer storage area located at the south entrance gate. The highest residential area level (37.7 mg/kg) was detected near the southeast corner of the site adjacent to the nearest residence's yard located 40' south of the facility at depth 0"-24". The highest public access area level (852 mg/kg) was detected in the alleyway south of the site (sample location A-02) at depth 6"-12", which is also adjacent to the south entrance gate transformer storage area. Both the sampled residential yard and alleyway are located downgradient from site sources (ref 5, pages 3-4).

Based on results of the July 10-12, 1995 soil investigation, a PA was authorized. An EPA TAT performed the PA on-site reconnaissance on May 20, 1997, collected additional site information and assessed potential threats to nearby residents and the environment. The PA identified two city-owned public drinking water wells, one located within 0.25 miles of the site and a third private-use well located within a

1-mile radius of the site. Although the two city wells were noted developed in the deep Woobine aquifer at an average screened depth of 1,464', a file review revealed the wells had never been tested for PCBs (ref 5, pages 4-5).

Based on findings from the PA, an EPA SSI was approved on July 21, 1997 to collect additional site information and investigate other contaminants that may have migrated along the soil exposure pathway and possibly to the groundwater pathway. A review of current data to date indicated that the site would not likely meet minimum eligibility requirements as a federal National Priority List (NPL) site; however, information collected during the SSI would be evaluated prior to assigning the site for further action under State Authorities (ref 11, pages 1-2).

Therefore, the pathways of concern as described in the PA, dated May 20, 1997, are the groundwater and soil exposure pathways. The SSI will focus on establishing primary groundwater targets potentially exposed to source contaminants and/or any additional nearby residential targets that meet soil exposure target criteria. Since the PA identified no perennial streams or receptor bodies of water located within the two-mile target distance limit criteria, the surface water pathway will not be evaluated. In addition, since there is no evidence or analytical data to date indicating an air release from site sources, the air pathway will not be evaluated.

Waste Containment/Hazardous Substance Identification

The information used to identify the waste characteristics at the Frank J. Doyle Transformer Site was obtained from a review of both federal and state records. The site was identified to have several waste sources where hazardous substances may have been improperly disposed or spilled from careless handling during salvage operations. The specific areas of interest (as shown in Figure 5) include:

- (1) a 50'x30' L-shaped transformer storage area located between the south and east entrance gates containing documented PCB-contaminated soils. The area is used for long-term storage of transformers received from suppliers,
- (2) a 75'x30' L-shaped container storage area located in the southwest corner of the site containing documented PCB-contaminated soils. The area contains a bermed concrete pad and numerous tanks/drums used to store drained transformer oils prior to transfer and off-site disposal, and
- (3) a 50'x50' transformer off-load area located in the north central portion of the site containing documented PCB-contaminated soils. The area is used to initially off-load out-of-service transformers received from suppliers and for short-term storage of the smaller transformers (ref 5, pages 2-4 and 7-8).

Transformer Storage Area - Initial EPA investigations of PCB contamination remaining in the southeast transformer storage area were conducted from July 20 to October 12, 1990. Subsequent EPA investigations were conducted on April 19, 1991 and again on September 7, 1994 (ref 5, pages 2-3). The owner also conducted separate soil investigations from May 23-24, 1995 using an environmental contractor (ref 5, page 3). Analytical results from the most recent EPA investigation conducted on July 10-12, 1995, documented elevated PCBs (Aroclor 1260) ranging from 135 mg/kg to 1,590 mg/kg at depth 0"-24" at various locations (shown in Figure 2) within the southeast transformer storage area (ref 5, page 3 and Figure 3). These values exceeded the listed TNRCC TAC 335.568 - Appendix II, Industrial Soil/Air and Ingestion (SAI-Ind) Risk Reduction Standard No. 2 medium specific concentration (MSC) level for PCBs at an industrial facility. The MSC level for PCBs at an industrial facility are less than 25.0 mg/kg by 5.4 to 63.6 times the maximum recommended value.

Container Storage Area - Visible evidence of contamination remaining in the container storage area was initially observed during the May 20, 1997 EPA PA on-site reconnaissance inspection when yellowish/green stains were noted in soils located along the fenceline adjacent to the container storage area where accumulated transformer oils were reportedly pumped to a tanker truck for off-site disposal. Further evidence of spilled/leaking waste oils was noted originating from cracks in several places along the edge of the deteriorating concrete berm with visible oil stains noted in the adjacent soils. Analytical results from the July 10-12, 1995 EPA PCB investigation revealed Aroclor 1260 ranging from 25.5 mg/kg to 48.0 mg/kg at depths 0"-24" in soils adjacent to the container storage area (ref 5, pages 3 and 7). These values exceeded the listed Appendix II, SAI-Ind MSC level by 1.92 times the maximum recommended value.

Transformer Off-Load Area - Analytical results from the July 10-12, 1995 EPA PCB investigation revealed Aroclor 1260 ranging from 4.2 mg/kg to 16.6 mg/kg at depths 0"-24" in the transformer off-load area (ref 5, pages 3-4). These levels were determined below the 25.5 mg/kg maximum recommended Appendix II, SAI-Ind MSC value listed for an industrial site.

Based on a file review of existing site characterization data, the primary contaminants of concern include PCB wastes that: (1) may have discharged to surface soils in the transformer storage area located in the southeast portion of the site, (2) that may have been spilled during transfer operations conducted in the container storage area located in the southwest portion of the site, and (3) that may have discharged to surface soils in the transformer off-load area located in the north central portion of the site. A summary of waste sources by identity, location, description, and estimated quantities are provided in Table 1.

TABLE 1. SOURCE WASTE CHARACTERISTICS

Source Identity	Source Location	Source Description	Estimated Quantity
Transformer Storage Area	Southeast portion of site	Transformer oils containing PCBs that may have spilled/discharged to adjacent soils	<u>Contaminated Soils</u> L-shaped area 20'x50' + 10'x20' = 1,200 ft ²
Container Storage Area	Southwest portion of site	Transformer oils containing PCBs that may have spilled from transfer operations.	<u>Contaminated Soils</u> L-shaped area 10'x75' + 20'x30' = 1,350 ft ²
Transformer Off-Load Area	North central portion of site	Transformer oils containing PCBs that may have spilled during off-load operations.	<u>Contaminated Soils</u> Box-shaped area 50'x50' = 2,500 ft ²

Sources : Reference 5, pages 2-3 and 7; Appendix B, pages 12, 16.

A total of three (3) source characterization soil samples (SO-17, SO-18 and SO-19) were collected during the SSI at depths 6"-12" just below a compacted gravel base from the three identified on-site waste management areas to: (1) substantiate prior sample results, (2) determine current levels of remaining source contamination, and (3) obtain Contract Laboratory Program (CLP) quality data. A summary of sample location/rationale is provided in Table 5 and approximate sample locations are shown in Figure 5. Sample location photographs include Photos #19 thru #22 (see Appendix A). Sample documentation was recorded in a field log book (see Appendix B).

All source characterization samples were analyzed for CLP metals, cyanide, polychlorinated biphenyls (PCBs), and CLP organics (volatiles, semivolatiles and pesticides). Inorganic analysis was performed by AATS, 1700 West Albany, Suite C, Broken Arrow, Oklahoma, and organic analysis performed by Clayton Environmental Consultants, 22345 Roethal Drive, Novi, Michigan. Summaries of chemical constituents detected 3X above highest background levels are shown below in Tables 2a and 2b. All additional analytical results are shown in Appendix C to include samples SO-17 thru SO-19, ER-01, ER-02, FB-01 and FB-02.

TABLE 2A Inorganics Detected in Source Samples and Highest Background						
CLP Sample ID Number Sample Description	SO-17 MFH-L99 Transformer Off-Load Area	SO-18 MFH-L94 Container Storage Area	SO-19 MFH-L95 Transformer Storage Area	SO-01 MFH-M13 Background Sample	SO-02 MFH-M14 Background Sample	SO-03 MFH-M09 Background Sample
Hazardous Substance	mg/Kg [SOL]	mg/Kg [SOL]	mg/Kg [SOL]	mg/Kg [SOL]	mg/Kg [SOL]	mg/Kg [SOL]
Copper	279 [0.63]	204 [0.63]	30.9 [0.51]	11.6 [0.55]	20.6 [0.61]	20.0 [0.60]
Reference						

CRDL = Contract Required Detection Limit. L = Reported concentration is between IDL and the CRDL.
 [SQL] = Sample Quantitation Limit. ND = Undetected at the laboratory reported detection limit.
 ■ = Greater than 3X the highest background value; or for a background sample, indicates the highest detected value. CLP = Contract Laboratory Program.
 IDL = Instrument Detection Limit mg/Kg = milligrams per kilogram.

TABLE 2B Organics Detected in Source Samples and Highest Background								
CLP Sample ID Number Sample Description	SO-17 FFR77 Transformer Off-Load Area	SO-18 FFR72 Container Storage Area	SO-18DL FFR72DL Dilution of SO-18	SO-19 FFR73 Transformer Storage Area	SO-19DL FFR73DL Dilution of SO-19	SO-01 FFR91 Background Sample	SO-02 FFR92 Background Sample	SO-03 FFR87 Background Sample
Hazardous Substance	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]
Hexachloro benzene	ND [13,000]	15,000 [14,000]	**	ND [440]	**	ND [460]	ND [500]	ND [500]
PCBs Aroclor-1260	160J [42]	1,400,000* [44,000]	2,300,000J [440,000]	1,700* [44]	3,100J [440]	ND [46]	33J [50]	340J [50]
Dilution Factor	1	1,000	10,000	1	10	1	1	1
Reference								

ND = Not detected at the reported quantitation limit.

* = Result not recommended for use because of associated QA/QC performance inferior to that from other analysis.

** = Original sample was not diluted.

■ = Greater than 3X the highest background value; or for a background sample, indicates the highest detected value.

[SQL] = Sample Quantitation Limit.

CLP = Contract Laboratory Program.

ug/Kg = micrograms per kilogram.

PCBs = polychlorinated biphenyls.

J = Estimated value.

Table 2a reveals a single inorganic constituent copper detected in two of three source samples that was greater than three times (3x) the highest detected background level (3x20.6 mg/kg = 61.8 mg/kg) identified from soil sample SO-02. Soil sample SO-17 and SO-18 indicated moderate levels of copper at 279 mg/kg and 204 mg/kg.

Table 2b indicates a semi-volatile organic compound and a PCB that were detected greater than three times (3x) the highest background level or above a sample quantitation limit. Soil sample SO-18 indicated moderate levels of hexachlorobenzene at 15,000 ug/kg and soil samples SO-18 and SO-19 indicated qualified significantly elevated levels of PCBs (Aroclor-1260) at 2,300,000 ug/kg and 3,100 ug/kg respectively.

There were no volatiles, cyanide or pesticides in any of the source soil samples that were detected greater than 3X the highest background level.

Groundwater Pathway

Characteristics

General Regional Geology

The southern portion of Fannin County and the Frank J. Doyle Transformer Site are located in the northern fringe of a band of Texas Blackland Prairie. This physiographic province extends through North Central Texas and is characterized by broad flood plains with long parallel drainage-ways and shallow stream valleys with well-rounded drainage divides. Most of these shallow streams cease to flow during extremely dry periods, especially at the headwaters; therefore many rural areas depend on local groundwater for supplemental irrigation. Natural vegetation typically includes blue-stem, needle and buffalo grasses with isolated wooded areas along bottomlands (ref 12, Appendix G, pages G.1 and G.3; ref 13, page 2).

The stratigraphic units in Fannin County are from oldest to youngest, the Cretaceous age Trinity, Washita-Fredericksburg, Woodbine, Eagle Ford, Austin and Taylor Groups. The water-bearing units include the Woodbine Group and the deeper Paluxy and Twin Mountains Formations of the Trinity Group. Collectively, these units attain an average thickness of 3,400 ft and consist of interbedded limestone, marl, shale, fine sand, sandy shale, clay, chalk and mudstone with subordinate beds of fine-to-coarse sand, silt, gravel and some lignite (ref 14, pages 6, 7 and 10). The tightly-compacted clay, marl, limestone, chalk and shale layers of the Washita-Fredericksburg Group underlie the moderately productive Woodbine aquifer and act as an aquitard between the deeper and higher-yielding Paluxy and Twin Mountains Formations. As a result, there is no apparent inter-connection between the Woodbine and Paluxy/Twin Mountains aquifers (ref 15, page 5; ref 5, page 5).

Surface outcrops in Fannin County generally parallel the Talco Fault Zone, located less than 30 miles to the south in a north-south trending zone. The fault zone then trends eastward and parallels the Red River. The Cretaceous Age Austin Group is the major surface outcrop covering most of Fannin County, and consists primarily of chalk, limestone and marl interbedded with fine - medium grained fossiliferous sands. Outcrops of the Eagle Ford Group are found north of the Austin Group outcrops along the Red River. Regionally, these stratigraphic units dip eastward beneath younger strata at typical rates of 40' per mile with a fairly constant thickness as depth increases. The Frank J. Doyle Transformer site is located on outcrops of the Austin Group (ref 14, pages 6-7; ref 15, pages 6-8 and 11).

Regional Hydrogeologic Setting

The primary water-supplying hydrologic unit in the vicinity of the site is the Woodbine aquifer, which is listed as a minor aquifer by the State of Texas (ref 16, Appendix G, page G.4). The underlying Trinity Aquifer is not used in the vicinity of the site. The

upper part of the Woodbine consists of crossbedded ferruginous sand, sandy clay and shale containing lignite and gypsum, making the water more highly mineralized. Thicker, lenticular shaped sands are primarily found in the lower part of the Woodbine aquifer. Clay content increases as the aquifer extends eastward and the Woodbine ceases to be an aquifer in eastern Lamar and Red River Counties (ref 14, page 10).

The top of the Woodbine aquifer is approximately 1,500 ft deep ranging from 400 ft to 600 ft thick with an average thickness of 450 ft (ref 15, pages 8 and 11; ref 17, page 92). According to well logs for the two developed municipal wells located near the site, measured static water levels were 449 ft in 1960 and 536 ft in 1976 (ref 5, page 4; ref Appendix E, pages E-3 and E-9). Local groundwater use from the Woodbine includes supplementing agricultural irrigation, meeting livestock, industrial and food processing needs and use as a public drinking water supply source. Groundwater movement within the aquifer follows an east-southeast direction, which generally parallels the bed dip. The hydraulic gradient varies from over 37 feet per mile to less than 13 feet per mile (ref 15, page 19).

According to well log information, the average yield during development performance tests of the two city wells was 315 gallons per minute (gpm) with 74 foot drawdown (ref Appendix E, Well Log No. 18-39-701 and 18-39-702). The coefficient of permeability for the coarser sands found in the lower portion of the Woodbine is 44 gallons per day/ft². Transmissibility values range from 1,320 to 14,700 gallons per day/ft (gpd/ft) with an average value of 4,700 gpd/ft (ref 15, page 21).

Water quality is dependent on the mineral composition of the rocks through which it passes and generally groundwater becomes more mineralized at increased depth and temperature. Dissolved solids in the Woodbine aquifer generally exceed 1,000 milligrams per liter (ref 15, page 32; ref 17, page 92).

Targets

Based upon information contained in the State of Texas well logs, there are six (6) wells within a 1-mile radius of the site (see Figure 3). Two of the wells are former municipal wells (State Wells No. 18-47-101 and -102) and one is a test well (State Well No. 18-47-103) that were developed in the Woodbine aquifer. These wells were completed at depths ranging from 1,605 - 1,712 ft with screened intervals from 1,502 - 1,581 ft. These wells were plugged in 1975 and are no longer in use (ref Appendix E, pages 18-33).

According to the City Public Works Director, two wells (State Wells No. 18-39-701 and 702) are currently being used as the city's primary public drinking water source (ref Appendix B, page 1). The remaining well is a 48" diameter domestic well (State Well No. 18-39-9b) located 0.75 miles to the northwest developed in shallow perched groundwater at a depth of 50 ft. It has not been established whether this well is used as a drinking water source (ref 5, page 4).

There is no documentation indicating that drinking water wells in the vicinity of the site have been contaminated by hazardous substances from the site (ref 5, page 5). Results of two recent TNRCC Public Water Supply Regulatory Program water quality inspections conducted on October 26, 1994 and June 26, 1990, revealed no contaminants above Public Drinking Water Standards for the two municipal wells and from the nearby Arledge Ridge Water Supply Corporation well located 2 miles north of the site (ref 18, pages 1-4, atchs 1-3; ref 19, pages 1-3).

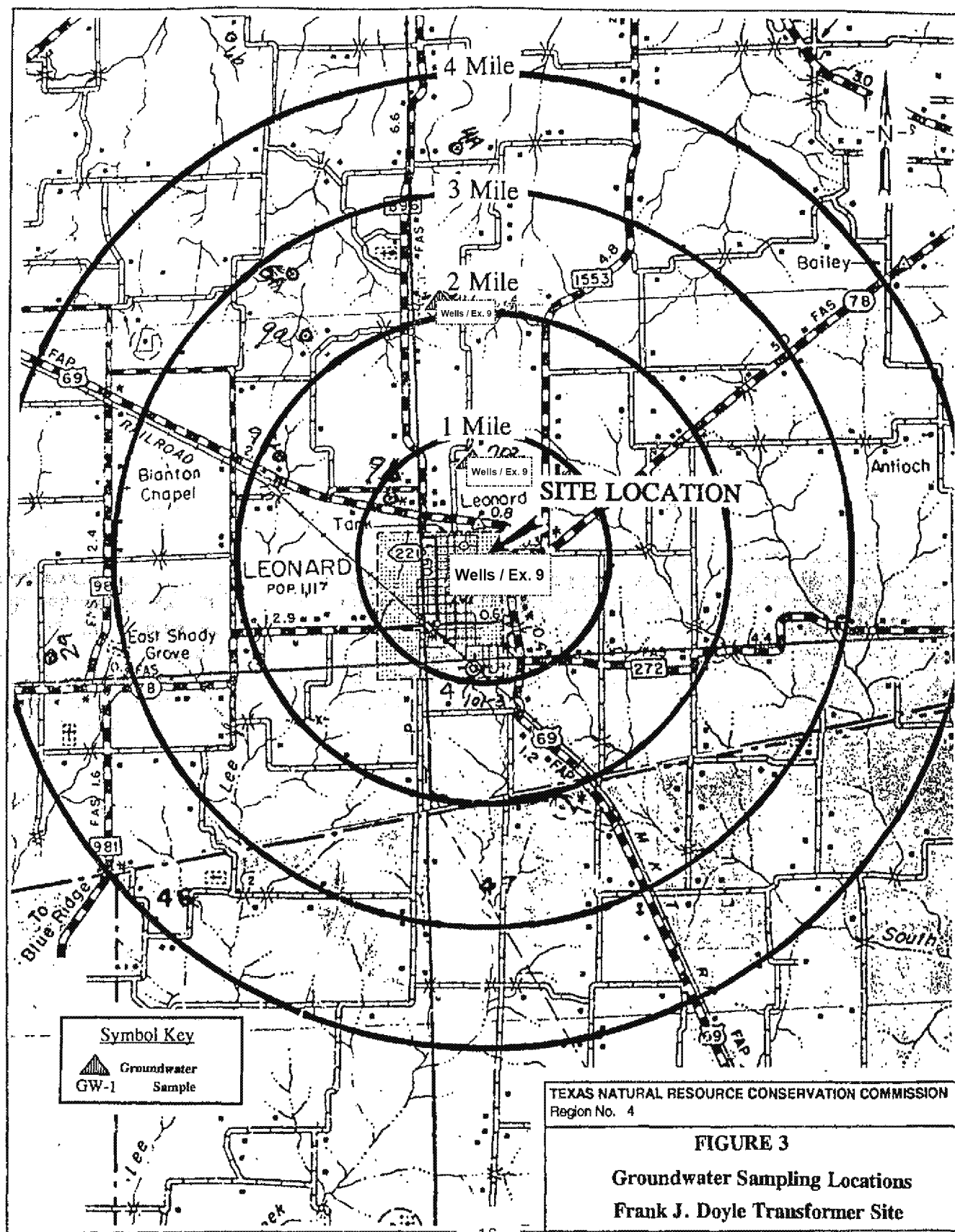
No wellhead protection areas exist within a 4-mile radius of the site (ref 20, Appendix G, page G.6).

The nearest potential groundwater target identified during the PA is the City of Leonard Pump Station No. 1 municipal well (State Well No. 18-39-701). This well is located at the intersection of Wells / Ex. 9 within a ¼ mile radius of the site as indicated in Figure 3 and illustrated in photo #1, Appendix A. According to the well log, the reported depth is 1,690 feet with a screened interval from 1,523 - 1,673 feet (ref 5, page 4; ref Appendix E, page 3).

Public, industrial, and domestic water wells have been identified within a 4-mile radius of the site using State of Texas water well logs and results of recent TNRCC Public Water Supply inspection reports (ref 18, pages 1-4; ref 19, encl 1). All well logs within the 1-mile radius and all public drinking water supply well logs within the 4-mile radius are included in Appendix E. Ground water target populations determined during the PA were calculated using an average of 2.48 persons per household for Fannin County and apportioned based on a combined well water distribution system serving 1,503 persons (1990 Census data) within a 1-mile radius (ref 5, page 5). Target population data for public supply Well No. 2 maintained by the privately-owned Arledge Ridge Water Supply Corporation was apportioned based on 185 connections and 2.48 persons per household within a 2-3 mile radius from the site (ref Appendix B, page 8; ref 19, page 1 and atch C).

Based on a review of TNRCC water well records, the following target populations were defined (ref 5, page 5; ref 19, page 1 and atch C; ref Appendix E, pages 1-46):

- Within 0 - 0.25 miles of the site, 1 public water supply well was identified. Drinking water from this well is apportioned to approximately 752 people.
- Between 0.25 - 0.50 miles of the site, there is 1 public water supply well. Drinking water from this well is apportioned to approximately 751 people.
- Between 0.50 - 1 mile of the site, there is 1 domestic well, 2 former public supply wells (closed) and a test well (closed). Drinking water from the domestic well is supplied to approximately 3 people.



- There is 1 domestic well in the 1 - 2 mile radius from the site. Drinking water from this well is supplied to approximately 3 people.
- There is 1 domestic well, 1 public supply well and 1 well designated as other (stock well) in the 2 - 3 mile radius from the site. Drinking water from these wells is supplied to approximately 462 people.
- There are no wells within the 3 - 4 mile radius from the site.

A total of three public drinking water wells (groundwater samples GW-01 through GW-04 with one duplicate GW-02) were sampled during the SSI. The samples were analyzed for soluble and suspended contaminants to determine potential source migration to the Woodbine aquifer that may have originated from site sources. One of the wells located off-site and upgradient from identified site sources (GW-04) was designated as the background well for attribution of site contaminants.

Groundwater sample identification, description, location and rationale are provided in Table 3. Sample locations are illustrated in Figure 3. Sample location photographs include Photos #1 thru #4 (see Appendix A). Applicable sample documentation was recorded in a field log book (see Appendix B).

Analysis of groundwater samples was performed by the USEPA Houston Branch Laboratory, Houston, Texas for metals, cyanide, polychlorinated biphenyls (PCBs), and organics (volatile organic compounds, semivolatiles and pesticides). Summaries of chemical constituents detected are shown in Table 4. All groundwater analytical results are provided in Appendix C, samples GW-01 thru -04 and FB-03.

Based on a review of groundwater sample results, the only chemical constituent detected that qualified as a release (i.e., 3X the highest detected background level or above the sample quantitation limit) was low-level bis(2-ethylhexyl)phthalate at 9.9 ug/L detected in groundwater sample GW-03.

There were no detected inorganics, volatiles, cyanide, pesticides or PCBs in any of the groundwater samples that qualified as a release.

TABLE 3. GROUNDWATER SAMPLE LOCATIONS

Sample Matrix	Sample ID #	Sample Location	Rationale
Groundwater Samples	GW-01	City of Leonard Pump Station #1 (State Well No. 18-39-701) well located at the intersection of Wells / Ex. 9	Assess potential groundwater contamination from a municipal well located nearest to the site.
	GW-02	Duplicate groundwater sample from the same location as GW-01.	Quality Assurance/Quality Control (QA/QC).
	GW-03	City of Leonard Pump Station #2 (State Well No. 18-39-702) well located Wells / Ex. 9	Determine the extent of groundwater contamination extending north of the site.
	GW-04	Arlodge Ridge Water Supply Corp. privately-owned drinking water well located Wells / Ex. 9	Establish upgradient background values for attribution of contaminants to site sources.

TABLE 4 - INORGANIC AND ORGANIC GROUNDWATER SAMPLE RESULTS

Inorganic Constituents µg/L	8FAXDW02-01 GW-01 Pump Sta. No.1	8FAXDW02-02 GW-02 Duplicate GW01	8FAXDW02-03 GW-03 Pump Sta. No. 2.	8FAXDW02-04 GW-04 Background	CRDL µg/L
Calcium	856	981	987	947	150
Iron	ND	72	94	81	25
Magnesium	314	317	387	339	150
Manganese	5	5	ND	ND	5
Sodium	271,000	276,000	296,000	289,000	500
Organic Constituents ug/L	8FAXDW02-01 GW-01 Pump Sta. No.1	8FAXDW02-02 GW-02 Duplicate GW01	8FAXDW02-03 GW-03 Pump Sta. No. 2.	8FAXDW02-04 GW-04 Background	CRQL ug/L
Bis2-ethylhexyl phthalate	ND	ND	9.9	ND	4

CRDL = Contract Required Detection Limit.
ug/L = micrograms per liter.

CRQL = Contract Required Quantitation Limit.
ND = Analyte concentration undetected at the reported sample quantitation limit.

Surface Water Pathway

Characteristics

The Frank J. Doyle Transformer site is located within non-designated Segment No. 0306 at the western extreme of the Sulphur River Basin, which flows east joining the Middle and North Sulphur Rivers and converges with the Red River 308 miles downstream in Arkansas. The major tributaries of the Sulphur River are Days Creek and White Oak Bayou. The Sulphur River Basin drains an area of 3,558 square miles and includes 11 counties (ref 24, page 123). The drainage area upgradient of the site is estimated at 7 acres based on topographic map elevation contours (ref 21, page 1). During the SSI reconnaissance, it was noted that surface water at the site generally flows to the southeast along natural drainage areas collecting in the alleyway and bar ditch located east and adjacent to Poplar Street, thence flowing south to Hackberry Street where it pools at a culvert as shown in Figure 5. During periods of heavy runoff, the pooled water drains further south and east along roadside ditches seeking low areas (ref Appendix B, page 16). The city has few storm drains and the majority of the city's runoff is directed out of the city via drainage ditches (ref 5, page 6).

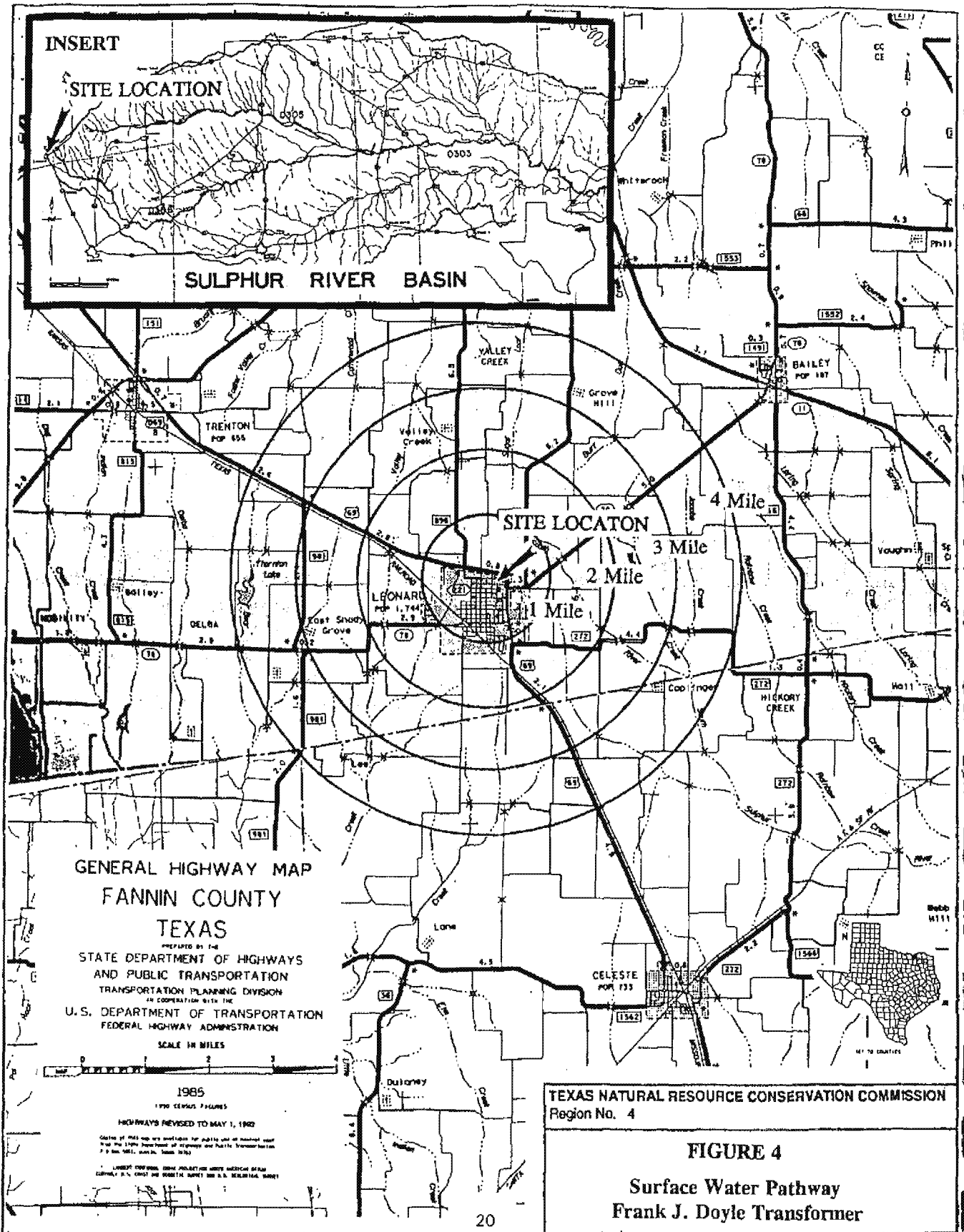
The site is not located within the 100-year flood boundary (ref 5, pages 6-7).

The 2-year 24-hour rainfall for the area of the site is approximately 4.0 inches (ref 25, page 95).

Targets

According to the PA, there are no identified perennial streams or receptor bodies of water located within the required two-mile target distance limit criteria (ref 5, page 6). Figure 4 supports this finding revealing a radial pattern of surface water pathways originating near the City of Leonard that appear to drain outward from a broad elevated plateau. By inspection, all streams located within a 4-mile radius of the site are identified as intermittent (ref 22, page 2). In addition, the insert of the Sulphur River Basin shown in the upper left portion of Figure 4 indicates no perennial streams in the vicinity of the site and that the headwaters of the South Sulphur River (Segment 0306) appear to originate in southwest Fannin County near the City of Leonard flowing east (ref 24, page 125).

Since there are no identifiable perennial streams or receptor bodies of water within the required target distance criteria that may have received wastes originating from site sources, the surface water pathway will not be evaluated. Contaminants that may have migrated near the site along the limited overland flow segment of the surface water pathway will be evaluated under the soil exposure pathway.



Soil Exposure Pathway

Characteristics

According to the PA, public access to the site is restricted by means of a 6 foot-high wooden fence surrounding the site with three entrance gates located along the west, south, and eastern perimeter, which was confirmed during the SSI reconnaissance. According to the facility manager, the entrance gates are normally locked after business hours and during business hours, someone is normally at the site to preclude inadvertent entry. Vehicular access is thru the east and south gates with parking areas provided for visitors. The west gate is for pedestrians only and opens to the owner's residence (ref 5, page 7; ref Appendix B, page 2).

As shown in Figure 1 and photos #33 and #34, Appendix A, adjacent land use near the site is primarily residential since the site is located near the northeast city limits of Leonard, Texas (population 1,744 -1990 Census). There are several city parks, public schools, churches and local retail businesses located within a 1-mile radius of the site. State Highway (SH) 69 is a major public roadway located approximately 500' north and east of the site (ref 21, page 1; Appendix B, page 3 and 8). During the SSI off-site reconnaissance, it was observed that surface water originating from site sources generally flows to the southeast only for a limited distance. The runoff collects within nearby bar ditches and pools in low spots near adjacent residential yards as shown in Photos #8 - #11 and #33, Appendix A (ref Appendix B, page 16).

Potential off-site runoff sources applicable to the soil exposure pathway include the three previously identified on-site waste management areas (summarized in Table 1) where PCB-contaminated soils have been documented (ref 5, pages 2-3 and 7).

Since there is a likelihood of surface soil contamination remaining at or near the site, primary soil exposure pathway targets include resident population, resident workers, terrestrial sensitive environments and nearby population threats, which are discussed in more detail in the following sections.

Targets

According to the PA, there were no on-site residences, day care centers or schools with occupants or persons in attendance who were within 200' of an identified area of observed contamination, which was substantiated during the SSI reconnaissance and interviews with knowledgeable site personnel. In addition, there were no parks or other established recreational areas observed on-site and located within 200' of an area of observed contamination. The nearest occupied residence (as shown in Figure 2 and Photo #34, Appendix A) was noted located approximately 40 feet south of the site across an alleyway (ref 5, page 8; ref Appendix B, page 12).

The number of on-site workers, according to Mr. Frank Doyle, has been no more than three (3) personnel; however, there are numerous transporters and waste haulers who frequently visit the site conducting business. During the SSI reconnaissance, there were no observed adjacent business properties with work stations located within 200 feet of an area of observed contamination (ref 5, page 8; ref Appendix B, pages 2 and 8).

According to the PA, nearby population targets within 200 feet of a site source include the adjacent Leonard High School with 225 students, the Leonard Junior High School with 200 students and the Leonard Elementary School with 300 students. School locations and student population data were substantiated during the SSI off-site reconnaissance and during interviews with knowledgeable school personnel. In addition, a child care center, the Leonard Integrated School District (LISD) Child Care Center) facility, which has a children's playground located in the back adjacent to the alleyway, was noted located within 200 feet of a site source as illustrated in Photo #36, Appendix A. According to the child care center director, there are 6 adult staff and 14 pre-school aged children who attend from 7:30 am to 4:00 pm five days a week (ref 5, page 8; ref Appendix B, pages 7, 37 and 46).

Since the site is still active, there is frequent human activity at the site related to off-loading and handling of out-of-service transformers and conducting metal recovery salvage operations which could result in workers being inadvertently exposed to remaining site contaminants. In addition, both during the PA and SSI site reconnaissances, numerous students of all ages were noted walking to and from school along alleyways located south of the site as illustrated in Photo #9, Appendix A, where PCB-contaminated soils have been documented (ref 5, page 8; ref Appendix B, page 8).

Based on a review of Fish and Wildlife Service topographic wetland maps, there are approximately 1 acre of wetland within 0 to ¼ mile of the site, 3 acres within ¼ to ½ mile of the site and 5 acres within ½ to 1 mile of the site (ref 26, page 1). It had not been established whether these wetlands had been exposed to site wastes. However, based on the localized drainage patterns identified during the SSI off-site reconnaissance, it is not likely that these wetlands were exposed to site contaminants transported along the surface water pathway (ref Appendix B, page 10).

Nearby population threat values within a 1-mile radius of the site were estimated during the PA using the 1990 Census data for the City of Leonard and a house count within distance categories. There are an estimated 1,503 individuals living within 1 mile of the site (ref 5, page 5 and 8).

Applicable waste categories and potentially contaminated areas at the facility were previously identified in the PA dated May 1997 and during a review of State and Federal records, as previously noted. As a result, a total of sixteen (16) soil samples including two duplicates were collected during the SSI to substantiate releases of

remaining on-site contaminants to adjacent soils.

During the SSI, three (3) grab soil samples (SO-01, SO-02 and SO-03) were collected at depths 0"-6" from three unaffected upwind/upgradient locations ranging from 0.7 miles northwest to 2.2 miles north of the site to identify normal occurring background levels for contaminant attribution. The sample with the highest detected background level for the contaminant of concern was identified and used to determine if a release had occurred from the site. i.e., greater than 3X the highest background value.

Three (3) additional 5-part composite soil samples (SO-04, SO-05 and SO-06) were collected at depths 0"-6" from grassy areas located adjacent to the Leonard High School facility to assess contaminants that may have been transported along the surface water pathway or by air deposition from normal site activities.

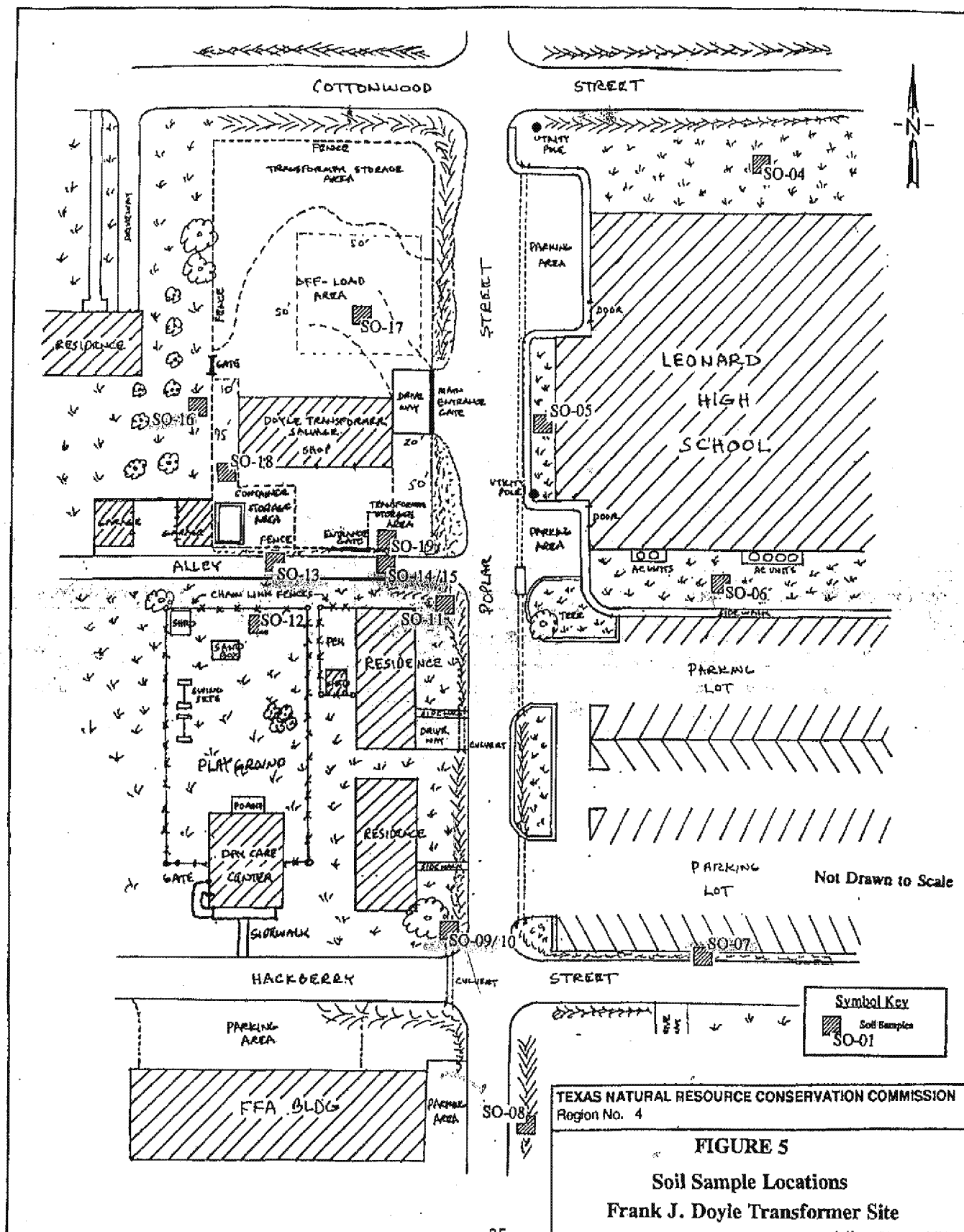
A total of ten (10) other soil samples were collected from nearby off-site locations to assess contamination that may have been transported via surface water runoff or by air deposition. Four (4) grab soil samples (SO-07, SO-08, SO-09/10) were collected at depths 0"-6" from three low areas within drainage ditches located along Poplar and Hackberry Streets with SO-10 a duplicate of SO-09. One (1) grab soil sample (SO-11) was collected at depth 0"-6" from a low spot in the bar ditch located along the residential yard located south of the site and one (1) 5-part composite soil sample (SO-12) was collected at depths 0"-3" from the nearby day care center playground area. In addition, three (3) grab soil samples (SO-13 and SO-14/15) were collected at depths 6"-12" from two low areas along the south alleyway with SO-15 a duplicate of SO-14. Finally, one (1) grab soil sample (SO-16) was collected at depth 0"-6" along the fenceline of the adjacent residential yard located west of the site.

A summary of off-site soil sample location/rationale is provided in Table 5 and approximate sample locations are shown in Figure 5. Sample location photographs include Photos #5 thru #18 (see Appendix A). Applicable sample documentation was recorded in a field log book (see Appendix B).

All off-site soil samples were analyzed for CLP metals, cyanide, polychlorinated biphenyls (PCBs), and CLP organics (volatiles, semivolatiles and pesticides). Inorganic analysis was performed by AATS, 1700 West Albany, Suite C, Broken Arrow, Oklahoma, and organic analysis performed by Clayton Environmental Consultants, 22345 Roethal Drive, Novi, Michigan. Summaries of chemical constituents detected above release criteria are shown in Tables 6a and 6b. All additional analytical results not qualifying as release concentrations are shown in Appendix C, Samples SO-01 thru SO-16, ER-01, ER-02, FB-01 and FB-02.

TABLE 5. SOIL SAMPLE LOCATIONS

Sample Matrix	Sample ID #	Sample Location	Rationale
Soil Samples	SO-01	Unaffected soil sample collected upgradient/upwind from site sources.	Obtain a background sample for attribution of site contaminants.
	SO-02	Unaffected soil sample collected upgradient/upwind from site sources.	Obtain a background sample for attribution of site contaminants.
	SO-03	Unaffected soil sample collected upgradient/upwind from site sources.	Obtain a background sample for attribution of site contaminants.
	SO-04	5-part composite 0"-6" deep from the grassy area north of the high school.	Assess contamination that may have migrated to the high school.
	SO-05	5-part composite 0"-6" deep from the grassy area west of the high school.	Assess contamination that may have migrated to the high school.
	SO-06	5-part composite 0"-6" deep from the grassy area south of the high school.	Assess contamination that may have migrated to the high school.
	SO-07	Grab soil sample from the drainage ditch along Hackberry Street east of Poplar.	Assess contamination that may have migrated along the SW drainage pathway.
	SO-08	Grab soil sample from the drainage ditch along Poplar Street south of Hackberry.	Assess contamination that may have migrated along the SW drainage pathway.
	SO-09	Grab soil sample from the drainage ditch along Poplar Street north of Hackberry.	Assess contamination that may have migrated along SW drainage pathway.
	SO-10	Duplicate soil sample of SO-09.	Quality Assurance/Quality Control (QA/QC).
	SO-11	Grab soil sample from a low spot near residential yard located south of the site.	Assess contamination that may have migrated along the SW drainage pathway.
	SO-12	5-part composite 0"-3" deep from the backyard of a child day care center.	Assess contamination that may have migrated along the SW drainage pathway.
	SO-13	Grab soil sample 6"-12" deep from the public alleyway located south of site.	Assess contamination that may have migrated from the container storage area.
	SO-14	Grab soil sample 6"-12" deep from the public alleyway located south of site.	Assess contamination that may have migrated from the transformer storage area.
	SO-15	Duplicate soil sample of SO-14.	Quality Assurance/Quality Control (QA/QC).
Source Samples	SO-16	Grab soil sample from a low spot in the residential yard located west of the site.	Assess contamination that may have migrated along the SW drainage pathway.
	SO-17	Grab soil sample 6"-12" deep from the transformer off-load area north of shop.	Assess source contaminants that may have originated from spilled transformer oils.
	SO-18	Grab soil sample 6"-12" deep from a low area north of container storage area.	Assess source contaminants that may have originated from spilled transformer oils.
	SO-19	Grab soil sample 6"-12" deep in an area west of the SE transformer storage area.	Assess source contaminants that may have originated from leaking transformers.





TNRCC

Protecting Texas
by Reducing and
Preventing Pollution

Screening Site Inspection Report

for

**Doyle, Frank J. Transformer Site; aka:
Frank J. Doyle Transformer
TXD980865109
Leonard, Fannin County, Texas**

**Prepared in cooperation with the
U.S. Environmental Protection Agency**

August 1998

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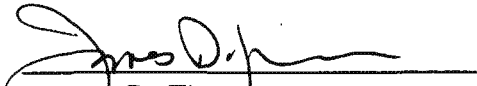
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Doyle, Frank J. Transformer Site; aka:
Frank J. Doyle Transformer


Leonard, Texas

TXD980865109

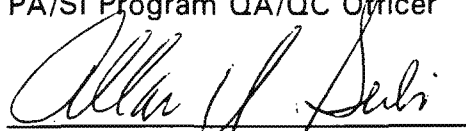
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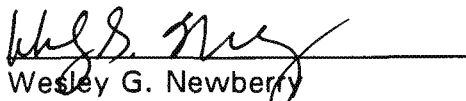
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Date

SSI Report

**Doyle, Frank J. Transformer Site; aka:
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TXD980865109**

Prepared in cooperation with the

U.S. Environmental Protection Agency

Prepared by

**Texas Natural Resource Conservation Commission
Site Assessment Section
Site Discovery and Assessment Program Staff
Austin, Texas**

September 1998

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NOTE

The State predecessor agencies: Texas Water Quality Board (TWQB), Texas Department of Water Resources (TDWR), Texas Water Commission (TWC), and Texas Air Control Board (TACB), referred to throughout this report are now known as the Texas Natural Resource Conservation Commission (TNRCC). The new agency, TNRCC, became effective September 1, 1993, as mandated under State Senate Bill 2 of the 73rd Regular Legislative Session.

SECTION 1

INTRODUCTION

The Texas Natural Resource Conservation Commission (TNRCC) has been requested by the U.S. Environmental Protection Agency (EPA) Region VI to conduct a Screening Site Inspection (SSI) at the Doyle, Frank J. Transformer Site; aka: Frank J. Doyle Transformer (EPA Identification number TXD980865109). The site is currently an active registered industrial solid waste generator and transporter facility (Solid Waste Registration No. 80952) that conducts salvage operations by stripping out-of-service power transmission transformers for recoverable metals. The facility has been owned and operated by Frank J. Doyle since 1974 until his retirement in January 1997 when operations transferred to his son, Gary Doyle. The owner lives adjacent to the site.

The site consists of approximately 0.6 acres located at 305 E. Cottonwood Street in northeast Leonard (pop. 1,744 - 1990 Census), Fannin County, Texas. The facility consists of a single office/shop with surrounding yard storage areas surrounded by a continuous wooden fence. The owner maintains a bermed concrete pad for 55-gallon drums and oil storage tanks (1-375-gal and 2-500-gal) for drained fluids. The facility uses a high-temperature oven to burn residual oils, paper and varnish from copper and aluminum transformer cores generating stack emissions and residual ash. The facility is a registered emission source and maintains an air operating permit under Texas Air Control Board (TACB) Air Operating Permit No. T-18612, with special provisions pertaining to maximum allowable polychlorinated biphenyls (PCBs), use of chlorine-containing wire insulation or building wire, no visible emissions and cleaning oven minimum/maximum operating temperatures with restricted fuel sources.

As a result of residential concerns, an EPA Technical Assistance Team (TAT) collected 94 soil samples at the facility from July 10-12, 1995, revealing elevated PCBs (Aroclor 1260) in soils ranging from 1.57 mg/kg to 2,730 mg/kg. The highest concentrations were detected adjacent to the south gate where large transformers are stored prior to salvaging operations. Other areas containing PCB contamination > 50 mg/kg included the east side transformer storage area, the southwest tank storage area and areas along the south alleyway. Lower level PCBs were detected in the adjacent residential yard located 40' south of the site, the owner's yard and in an on-site transformer off-load area. During a May 20, 1997 EPA Preliminary Assessment (PA) site reconnaissance inspection, yellowish/green stains were noted in soils adjacent to the wooden fence line and the shop walls showed signs of metal sidewall deterioration. The full extent of PCB contamination in soils adjacent to the facility had not been established. Whether PCB contamination had entered a public supply drinking water well located 0.25 miles south of the site had not been determined.

SITE OBJECTIVE WITH RESPECT TO THE PREREMEDIAL PROCESS

The preremedial stage of the Superfund process involves a PA and a site inspection (SI) stage consisting of an SSI and, if necessary, a Hazard Ranking System (HRS) Documentation Record. This SSI is being conducted to determine if the above-

referenced site is eligible for proposal to the National Priorities List (NPL) under the Federal Superfund Program. The SSI will focus on assessing the threats along the groundwater and soil exposure pathways within and adjacent to the site.

A PA has already been completed for the site. This SSI will build upon existing environmental data by obtaining additional background information relevant to the site through a file review and by collecting environmental samples to further characterize conditions at the site. Sampling conducted during the field work will attempt to document hazardous substance migration to and from the site from potential sources, and look for evidence of actual human and environmental exposure to contaminants. Results will be used to determine whether the site will move forward to a HRS Documentation Record or be designated as "no further remedial action planned."

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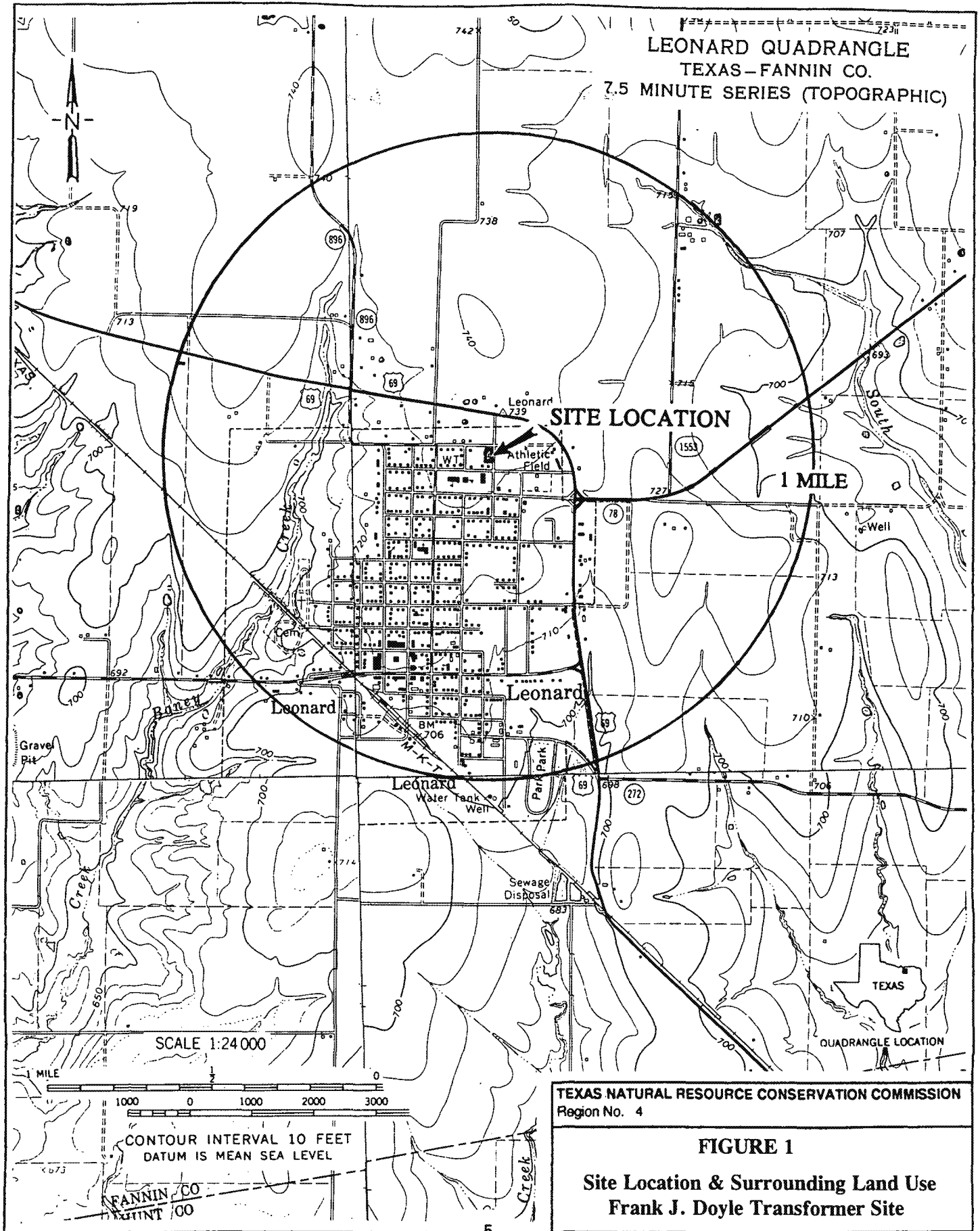
SECTION 2 SITE BACKGROUND AND DESCRIPTION

Site Information

The Doyle, Frank J. Transformer Site, aka Frank J. Doyle Transformer, is an active registered salvage yard that receives and processes out-of service power transmission transformers for recoverable metals. The site is located at 305 East Cottonwood Street in northeast Leonard (population 1,744, 1990 Census), Fannin County, Texas, as shown in Figure 1. The geographic coordinates of the site are Latitude 33° 23' 23" North, Longitude 96° 14' 34" West (ref 5, page 1). The site is bordered to the north by Cottonwood Street and a residential area, to the east by Poplar Street and the Leonard High School facility (225 students), to the south by an alleyway and two more residences, and along the western boundary by the owner's residence. Located less than 0.25 miles to the southwest are the Leonard Elementary School with 300 students and the Junior High School with 200 students (ref 5, pages 1 and 8). One of the facilities located southwest of the site is the school district day care center with play areas for small children and the nearest residence has a pony pen where small children frequently congregate (ref Appendix B, page 8).

The site consists of approximately 0.6 acres surrounded by a 6' wooden perimeter fence. The only structure is an office/shop where transformers are drained and stripped that contains a small oven used to bake removed transformer cores. Various yard storage areas surround the shop. There are three access gates located on the east (main entrance), south and west perimeter, which are normally locked after business hours. The facility is owned by Frank J. Doyle, who resides west of the facility, and the site is currently operated by his son, Gary Doyle. The shop yard is gravel-covered with a concrete driveway at the east entrance. A bermed concrete pad located in the southwest corners contains 55-gallon drums and oil storage tanks (1 x 375-gal and 2 x 500-gal) used to accumulate drained liquids (ref 5, page 1).

The facility receives used power transformers shipped from various companies located in Texas, Oklahoma, Louisiana and Arkansas that are off-loaded and stored on site. Residual oil is pumped from the transformer casings and placed in storage tanks located in the bermed concrete storage area. The transformer cores are then removed and placed on a draining table to allow any remaining oil to displace, which is placed in 55-gallon storage drums. The drained cores are then placed in an oven to bake off remaining oil, paper and varnish. The baked cores are removed, cooled and stripped for recoverable metals. Accumulated transformer oil is transferred from the storage tanks to trucks and shipped off-site to an authorized disposal/recycling facility by an authorized waste oil transporter (see site photographs #23 thru #31, Appendix A). According to the facility owner, Mr. Frank J. Doyle, the facility only accepted non-PCB filled transformers beginning in the late 1970's; however, prior to then transformer oil was not tested and some of the drained oil had been distributed to various individuals throughout Leonard for use as weed control (ref 5, page 2).



The facility submitted registration as a non-hazardous industrial solid waste generator/transporter (Solid Waste Registration No. 80951) to the Texas Water Commission (TWC) on July 21, 1993, listing the following waste streams: (1) used oil from non-PCB transformers (Waste Code 12061), (2) ash residue from a furnace used to remove varnish from transformer cores (WC 23041), and (3) general plant trash (WC 39012). Listed waste management units included: (1) 1x375-gallon tank, 2x500-gallon tanks and various 55-gallon drum storage containers, (2) a high temperature oven, and (3) a 4-yd dumpster (ref 6, page 2).

On January 21, 1988, the facility applied for a special air operating permit (TACB Special Permit No. S-18612) for authorized operation of an 18,500 Btu/lb cart-loaded Model BB-26 Heat Cleaning Oven manufactured by BAYCO Industries, San Leandro, California to burn off residual oil, paper and varnish from transformer cores (ref 7, pages 1-3, atchs 1-5). After a lengthy public review period with 80 comment letters generated, a meeting was convened at the Leonard High School on March 22, 1988. Based on a comprehensive TACB review conducted on June 27, 1988 and issues discussed during the pre-hearing conference for Contested Case Hearing No. 245, the permit was approved based on Findings of Fact and Conclusions of Law outlined in a subsequent TACB-issued Order No. 88-07, dated July 15, 1988. The order was issued as requested by the facility owner so that opponents identified during hearings could not challenge the permit at a later date (ref 8, atch A, pages 1-10; ref 9, atch 2). On April 22, 1989, an air operating permit (TACB Permit No. T-18612) was applied for, approved and issued effective April 5, 1991, with special provisions as listed below for continued operations of the heating unit (ref 10, page 1 and atch 3):

- (1) maximum allowable oven stack emission rates would be less than:

	<u>#/hr</u>	<u>TPY*</u>
volatile organic compounds (VOC)	0.004	0.002
total nitrogen oxides (NOX)	0.044	0.030
sulphur dioxide (SO2)	0.002	0.0012
particulate matter (PM)	0.030	0.018
carbon monoxide (CO)	0.021	0.013
polychlorinated biphenyls (PCBs)	6.75×10^{-6}	4.05×10^{-6}

*tons per year

- (2) all combustible material would contain less than 50 ppm PCBs,
- (3) each new source would be test certified to contain less than 50 parts per million (ppm) PCBs within 10 days of securing the new source,
- (4) building wire containing chlorine insulation would not be combusted,
- (5) the TACB and other authorized pollution control programs having jurisdiction could request sampling of any source material at any time,

- (6) no visible emissions (opacity of 5% or less),
- (7) oven operating instructions would be clearly posted,
- (8) fuel sources would be restricted to natural gas, liquefied petroleum gas (LPG) or electrical power,
- (9) combusted material would be less than 10% by weight of the total load,
- (10) ash would not become airborne, and
- (11) the primary combustion chamber temperature would be maintained <800°F and the secondary combustion chamber would be >1400°F.

On July 10-12, 1995, an EPA Technical Assistance Team (TAT) conducted a site investigation for PCB-contaminated soils by collecting 94 surface and subsurface samples from visibly-stained areas on site and from locations outside the facility along the west, south and east perimeters. Adjacent residential yards, the alleyway, and bar ditches located along Poplar Street were sampled to determine the presence and/or extent of PCB contamination. On-site sample results revealed elevated PCBs (Aroclor 1260) ranging from 2.7 mg/kg to 1,590 mg/kg at depth 0"-24" within the gridded areas shown in Figure 2. The highest on-site levels were detected adjacent to the transformer storage area located at the south entrance gate. PCB values >50 mg/kg were detected near the tank storage area located in the southwest corner and near the transformer storage area at the east entrance (ref 5, pages 3-4).

Results from off-site samples indicated PCB-contaminated soils ranging from 1.57 mg/kg to 2,730 mg/kg at varying depths (0"-6", 6"-12", 12"-18" and 18"-24") located outside the perimeter fence, in the alleyway, and in two adjacent residential yards. The isopleths drawn in Figure 2 indicate the approximate extent and level of Aroclor 1260 PCB contamination. The table in Figure 2 indicates the depth interval. The highest off-site levels were detected just outside the perimeter fence adjacent to the transformer storage area located at the south entrance gate. The highest residential area level (37.7 mg/kg) was detected near the southeast corner of the site adjacent to the nearest residence's yard located 40' south of the facility at depth 0"-24". The highest public access area level (852 mg/kg) was detected in the alleyway south of the site (sample location A-02) at depth 6"-12", which is also adjacent to the south entrance gate transformer storage area. Both the sampled residential yard and alleyway are located downgradient from site sources (ref 5, pages 3-4).

Based on results of the July 10-12, 1995 soil investigation, a PA was authorized. An EPA TAT performed the PA on-site reconnaissance on May 20, 1997, collected additional site information and assessed potential threats to nearby residents and the environment. The PA identified two city-owned public drinking water wells, one located within 0.25 miles of the site and a third private-use well located within a

1-mile radius of the site. Although the two city wells were noted developed in the deep Woobine aquifer at an average screened depth of 1,464', a file review revealed the wells had never been tested for PCBs (ref 5, pages 4-5).

Based on findings from the PA, an EPA SSI was approved on July 21, 1997 to collect additional site information and investigate other contaminants that may have migrated along the soil exposure pathway and possibly to the groundwater pathway. A review of current data to date indicated that the site would not likely meet minimum eligibility requirements as a federal National Priority List (NPL) site; however, information collected during the SSI would be evaluated prior to assigning the site for further action under State Authorities (ref 11, pages 1-2).

Therefore, the pathways of concern as described in the PA, dated May 20, 1997, are the groundwater and soil exposure pathways. The SSI will focus on establishing primary groundwater targets potentially exposed to source contaminants and/or any additional nearby residential targets that meet soil exposure target criteria. Since the PA identified no perennial streams or receptor bodies of water located within the two-mile target distance limit criteria, the surface water pathway will not be evaluated. In addition, since there is no evidence or analytical data to date indicating an air release from site sources, the air pathway will not be evaluated.

Waste Containment/Hazardous Substance Identification

The information used to identify the waste characteristics at the Frank J. Doyle Transformer Site was obtained from a review of both federal and state records. The site was identified to have several waste sources where hazardous substances may have been improperly disposed or spilled from careless handling during salvage operations. The specific areas of interest (as shown in Figure 5) include:

- (1) a 50'x30' L-shaped transformer storage area located between the south and east entrance gates containing documented PCB-contaminated soils. The area is used for long-term storage of transformers received from suppliers,
- (2) a 75'x30' L-shaped container storage area located in the southwest corner of the site containing documented PCB-contaminated soils. The area contains a bermed concrete pad and numerous tanks/drums used to store drained transformer oils prior to transfer and off-site disposal, and
- (3) a 50'x50' transformer off-load area located in the north central portion of the site containing documented PCB-contaminated soils. The area is used to initially off-load out-of-service transformers received from suppliers and for short-term storage of the smaller transformers (ref 5, pages 2-4 and 7-8).

Transformer Storage Area - Initial EPA investigations of PCB contamination remaining in the southeast transformer storage area were conducted from July 20 to October 12, 1990. Subsequent EPA investigations were conducted on April 19, 1991 and again on September 7, 1994 (ref 5, pages 2-3). The owner also conducted separate soil investigations from May 23-24, 1995 using an environmental contractor (ref 5, page 3). Analytical results from the most recent EPA investigation conducted on July 10-12, 1995, documented elevated PCBs (Aroclor 1260) ranging from 135 mg/kg to 1,590 mg/kg at depth 0"-24" at various locations (shown in Figure 2) within the southeast transformer storage area (ref 5, page 3 and Figure 3). These values exceeded the listed TNRCC TAC 335.568 - Appendix II, Industrial Soil/Air and Ingestion (SAI-Ind) Risk Reduction Standard No. 2 medium specific concentration (MSC) level for PCBs at an industrial facility. The MSC level for PCBs at an industrial facility are less than 25.0 mg/kg by 5.4 to 63.6 times the maximum recommended value.

Container Storage Area - Visible evidence of contamination remaining in the container storage area was initially observed during the May 20, 1997 EPA PA on-site reconnaissance inspection when yellowish/green stains were noted in soils located along the fenceline adjacent to the container storage area where accumulated transformer oils were reportedly pumped to a tanker truck for off-site disposal. Further evidence of spilled/leaking waste oils was noted originating from cracks in several places along the edge of the deteriorating concrete berm with visible oil stains noted in the adjacent soils. Analytical results from the July 10-12, 1995 EPA PCB investigation revealed Aroclor 1260 ranging from 25.5 mg/kg to 48.0 mg/kg at depths 0"-24" in soils adjacent to the container storage area (ref 5, pages 3 and 7). These values exceeded the listed Appendix II, SAI-Ind MSC level by 1.92 times the maximum recommended value.

Transformer Off-Load Area - Analytical results from the July 10-12, 1995 EPA PCB investigation revealed Aroclor 1260 ranging from 4.2 mg/kg to 16.6 mg/kg at depths 0"-24" in the transformer off-load area (ref 5, pages 3-4). These levels were determined below the 25.5 mg/kg maximum recommended Appendix II, SAI-Ind MSC value listed for an industrial site.

Based on a file review of existing site characterization data, the primary contaminants of concern include PCB wastes that: (1) may have discharged to surface soils in the transformer storage area located in the southeast portion of the site, (2) that may have been spilled during transfer operations conducted in the container storage area located in the southwest portion of the site, and (3) that may have discharged to surface soils in the transformer off-load area located in the north central portion of the site. A summary of waste sources by identity, location, description, and estimated quantities are provided in Table 1.

TABLE 1. SOURCE WASTE CHARACTERISTICS

Source Identity	Source Location	Source Description	Estimated Quantity
Transformer Storage Area	Southeast portion of site	Transformer oils containing PCBs that may have spilled/discharged to adjacent soils	<u>Contaminated Soils</u> L-shaped area 20'x50' + 10'x20' = 1,200 ft ²
Container Storage Area	Southwest portion of site	Transformer oils containing PCBs that may have spilled from transfer operations.	<u>Contaminated Soils</u> L-shaped area 10'x75' + 20'x30' = 1,350 ft ²
Transformer Off-Load Area	North central portion of site	Transformer oils containing PCBs that may have spilled during off-load operations.	<u>Contaminated Soils</u> Box-shaped area 50'x50' = 2,500 ft ²

Sources : Reference 5, pages 2-3 and 7; Appendix B, pages 12, 16.

A total of three (3) source characterization soil samples (SO-17, SO-18 and SO-19) were collected during the SSI at depths 6"-12" just below a compacted gravel base from the three identified on-site waste management areas to: (1) substantiate prior sample results, (2) determine current levels of remaining source contamination, and (3) obtain Contract Laboratory Program (CLP) quality data. A summary of sample location/rationale is provided in Table 5 and approximate sample locations are shown in Figure 5. Sample location photographs include Photos #19 thru #22 (see Appendix A). Sample documentation was recorded in a field log book (see Appendix B).

All source characterization samples were analyzed for CLP metals, cyanide, polychlorinated biphenyls (PCBs), and CLP organics (volatiles, semivolatiles and pesticides). Inorganic analysis was performed by AATS, 1700 West Albany, Suite C, Broken Arrow, Oklahoma, and organic analysis performed by Clayton Environmental Consultants, 22345 Roethal Drive, Novi, Michigan. Summaries of chemical constituents detected 3X above highest background levels are shown below in Tables 2a and 2b. All additional analytical results are shown in Appendix C to include samples SO-17 thru SO-19, ER-01, ER-02, FB-01 and FB-02.

TABLE 2A Inorganics Detected in Source Samples and Highest Background						
CLP Sample ID Number Sample Description	SO-17 MFH-L99 Transformer Off-Load Area	SO-18 MFH-L94 Container Storage Area	SO-19 MFH-L95 Transformer Storage Area	SO-01 MFH-M13 Background Sample	SO-02 MFH-M14 Background Sample	SO-03 MFH-M09 Background Sample
Hazardous Substance	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]
Copper	279 [0.53]	204 [0.53]	30.9 [0.51]	11.6 [0.55]	20.6 [0.61]	20.0 [0.60]
Reference						

CRDL = Contract Required Detection Limit. L = Reported concentration is between IDL and the CRDL.
 [SQL] = Sample Quantitation Limit. ND = Undetected at the laboratory reported detection limit.
 ■ = Greater than 3X the highest background value; or for a background sample, indicates the highest detected value. CLP = Contract Laboratory Program.
 mg/Kg = milligrams per kilogram.
 IDL = Instrument Detection Limit

TABLE 2B Organics Detected in Source Samples and Highest Background								
CLP Sample ID Number Sample Description	SO-17 FFR77 Transformer Off-Load Area	SO-18 FFR72 Container Storage Area	SO-18DL FFR72DL Dilution of SO-18	SO-19 FFR73 Transformer Storage Area	SO-19DL FFR73DL Dilution of SO-19	SO-01 FFR91 Bckgnd Sample	SO-02 FFR92 Bckgnd Sample	SO-03 FFR87 Bckgnd Sample
Hazardous Substance	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]
Hexachloro benzene	ND [13,000]	15,000 [14,000]	**	ND [440]	**	ND [460]	ND [500]	ND [500]
PCBs Aroclor-1260	160J [42]	1,400,000* [44,000]	2,300,000J [440,000]	1,700* [44]	3,100J [440]	ND [46]	33J [50]	340J [50]
Dilution Factor	1	1,000	10,000	1	10	1	1	1
Reference								

ND = Not detected at the reported quantitation limit.

* = Result not recommended for use because of associated QA/QC performance inferior to that from other analysis.

** = Original sample was not diluted.

■ = Greater than 3X the highest background value; or for a background sample, indicates the highest detected value.

[SQL] = Sample Quantitation Limit.

CLP = Contract Laboratory Program.

ug/Kg = micrograms per kilogram.

PCBs = polychlorinated biphenyls.

J = Estimated value.

Table 2a reveals a single inorganic constituent **copper** detected in two of three source samples that was greater than three times (3x) the highest detected background level (3x20.6 mg/kg = 61.8 mg/kg) identified from soil sample SO-02. Soil sample SO-17 and SO-18 indicated moderate levels of copper at 279 mg/kg and 204 mg/kg.

Table 2b indicates a semi-volatile organic compound and a PCB that were detected greater than three times (3x) the highest background level or above a sample quantitation limit. Soil sample SO-18 indicated moderate levels of **hexachlorobenzene** at 15,000 ug/kg and soil samples SO-18 and SO-19 indicated qualified significantly elevated levels of **PCBs (Aroclor-1260)** at 2,300,000 ug/kg and 3,100 ug/kg respectively.

There were no volatiles, cyanide or pesticides in any of the source soil samples that were detected greater than 3X the highest background level.

Groundwater Pathway

Characteristics

General Regional Geology

The southern portion of Fannin County and the Frank J. Doyle Transformer Site are located in the northern fringe of a band of Texas Blackland Prairie. This physiographic province extends through North Central Texas and is characterized by broad flood plains with long parallel drainage-ways and shallow stream valleys with well-rounded drainage divides. Most of these shallow streams cease to flow during extremely dry periods, especially at the headwaters; therefore many rural areas depend on local groundwater for supplemental irrigation. Natural vegetation typically includes blue-stem, needle and buffalo grasses with isolated wooded areas along bottomlands (ref 12, Appendix G, pages G.1 and G.3; ref 13, page 2).

The stratigraphic units in Fannin County are from oldest to youngest, the Cretaceous age Trinity, Washita-Fredericksburg, Woodbine, Eagle Ford, Austin and Taylor Groups. The water-bearing units include the Woodbine Group and the deeper Paluxy and Twin Mountains Formations of the Trinity Group. Collectively, these units attain an average thickness of 3,400 ft and consist of interbedded limestone, marl, shale, fine sand, sandy shale, clay, chalk and mudstone with subordinate beds of fine-to-coarse sand, silt, gravel and some lignite (ref 14, pages 6, 7 and 10). The tightly-compacted clay, marl, limestone, chalk and shale layers of the Washita-Fredericksburg Group underlie the moderately productive Woodbine aquifer and act as an aquitard between the deeper and higher-yielding Paluxy and Twin Mountains Formations. As a result, there is no apparent inter-connection between the Woodbine and Paluxy/Twin Mountains aquifers (ref 15, page 5; ref 5, page 5).

Surface outcrops in Fannin County generally parallel the Talco Fault Zone, located less than 30 miles to the south in a north-south trending zone. The fault zone then trends eastward and parallels the Red River. The Cretaceous Age Austin Group is the major surface outcrop covering most of Fannin County, and consists primarily of chalk, limestone and marl interbedded with fine - medium grained fossiliferous sands. Outcrops of the Eagle Ford Group are found north of the Austin Group outcrops along the Red River. Regionally, these stratigraphic units dip eastward beneath younger strata at typical rates of 40' per mile with a fairly constant thickness as depth increases. The Frank J. Doyle Transformer site is located on outcrops of the Austin Group (ref 14, pages 6-7; ref 15, pages 6-8 and 11).

Regional Hydrogeologic Setting

The primary water-supplying hydrologic unit in the vicinity of the site is the Woodbine aquifer, which is listed as a minor aquifer by the State of Texas (ref 16, Appendix G, page G.4). The underlying Trinity Aquifer is not used in the vicinity of the site. The

upper part of the Woodbine consists of crossbedded ferruginous sand, sandy clay and shale containing lignite and gypsum, making the water more highly mineralized. Thicker, lenticular shaped sands are primarily found in the lower part of the Woodbine aquifer. Clay content increases as the aquifer extends eastward and the Woodbine ceases to be an aquifer in eastern Lamar and Red River Counties (ref 14, page 10).

The top of the Woodbine aquifer is approximately 1,500 ft deep ranging from 400 ft to 600 ft thick with an average thickness of 450 ft (ref 15, pages 8 and 11; ref 17, page 92). According to well logs for the two developed municipal wells located near the site, measured static water levels were 449 ft in 1960 and 536 ft in 1976 (ref 5, page 4; ref Appendix E, pages E-3 and E-9). Local groundwater use from the Woodbine includes supplementing agricultural irrigation, meeting livestock, industrial and food processing needs and use as a public drinking water supply source. Groundwater movement within the aquifer follows an east-southeast direction, which generally parallels the bed dip. The hydraulic gradient varies from over 37 feet per mile to less than 13 feet per mile (ref 15, page 19).

According to well log information, the average yield during development performance tests of the two city wells was 315 gallons per minute (gpm) with 74 foot drawdown (ref Appendix E, Well Log No. 18-39-701 and 18-39-702). The coefficient of permeability for the coarser sands found in the lower portion of the Woodbine is 44 gallons per day/ft². Transmissibility values range from 1,320 to 14,700 gallons per day/ft (gpd/ft) with an average value of 4,700 gpd/ft (ref 15, page 21).

Water quality is dependent on the mineral composition of the rocks through which it passes and generally groundwater becomes more mineralized at increased depth and temperature. Dissolved solids in the Woodbine aquifer generally exceed 1,000 milligrams per liter (ref 15, page 32; ref 17, page 92).

Targets

Based upon information contained in the State of Texas well logs, there are six (6) wells within a 1-mile radius of the site (see Figure 3). Two of the wells are former municipal wells (State Wells No. 18-47-101 and -102) and one is a test well (State Well No. 18-47-103) that were developed in the Woodbine aquifer. These wells were completed at depths ranging from 1,605 - 1,712 ft with screened intervals from 1,502 - 1,581 ft. These wells were plugged in 1975 and are no longer in use (ref Appendix E, pages 18-33).

According to the City Public Works Director, two wells (State Wells No. 18-39-701 and 702) are currently being used as the city's primary public drinking water source (ref Appendix B, page 1). The remaining well is a 48" diameter domestic well (State Well No. 18-39-9b) located 0.75 miles to the northwest developed in shallow perched groundwater at a depth of 50 ft. It has not been established whether this well is used as a drinking water source (ref 5, page 4).

There is no documentation indicating that drinking water wells in the vicinity of the site have been contaminated by hazardous substances from the site (ref 5, page 5). Results of two recent TNRCC Public Water Supply Regulatory Program water quality inspections conducted on October 26, 1994 and June 26, 1990, revealed no contaminants above Public Drinking Water Standards for the two municipal wells and from the nearby Arledge Ridge Water Supply Corporation well located 2 miles north of the site (ref 18, pages 1-4, atchs 1-3; ref 19, pages 1-3).

No wellhead protection areas exist within a 4-mile radius of the site (ref 20, Appendix G, page G.6).

The nearest potential groundwater target identified during the PA is the City of Leonard Pump Station No. 1 municipal well (State Well No. 18-39-701). This well is located at the intersection of Wells / Ex. 9 within a ¼ mile radius of the site as indicated in Figure 3 and illustrated in photo #1, Appendix A. According to the well log, the reported depth is 1,690 feet with a screened interval from 1,523 - 1,673 feet (ref 5, page 4; ref Appendix E, page 3).

Public, industrial, and domestic water wells have been identified within a 4-mile radius of the site using State of Texas water well logs and results of recent TNRCC Public Water Supply inspection reports (ref 18, pages 1-4; ref 19, encl 1). All well logs within the 1-mile radius and all public drinking water supply well logs within the 4-mile radius are included in Appendix E. Ground water target populations determined during the PA were calculated using an average of 2.48 persons per household for Fannin County and apportioned based on a combined well water distribution system serving 1,503 persons (1990 Census data) within a 1-mile radius (ref 5, page 5). Target population data for public supply Well No. 2 maintained by the privately-owned Arledge Ridge Water Supply Corporation was apportioned based on 185 connections and 2.48 persons per household within a 2-3 mile radius from the site (ref Appendix B, page 8; ref 19, page 1 and atch C).

Based on a review of TNRCC water well records, the following target populations were defined (ref 5, page 5; ref 19, page 1 and atch C; ref Appendix E, pages 1-46):

- Within 0 - 0.25 miles of the site, 1 public water supply well was identified. Drinking water from this well is apportioned to approximately 752 people.
- Between 0.25 - 0.50 miles of the site, there is 1 public water supply well. Drinking water from this well is apportioned to approximately 751 people.
- Between 0.50 - 1 mile of the site, there is 1 domestic well, 2 former public supply wells (closed) and a test well (closed). Drinking water from the domestic well is supplied to approximately 3 people.

- There is 1 domestic well in the 1 - 2 mile radius from the site. Drinking water from this well is supplied to approximately 3 people.
- There is 1 domestic well, 1 public supply well and 1 well designated as other (stock well) in the 2 - 3 mile radius from the site. Drinking water from these wells is supplied to approximately 462 people.
- There are no wells within the 3 - 4 mile radius from the site.

A total of three public drinking water wells (groundwater samples GW-01 through GW-04 with one duplicate GW-02) were sampled during the SSI. The samples were analyzed for soluble and suspended contaminants to determine potential source migration to the Woodbine aquifer that may have originated from site sources. One of the wells located off-site and upgradient from identified site sources (GW-04) was designated as the background well for attribution of site contaminants.

Groundwater sample identification, description, location and rationale are provided in Table 3. Sample locations are illustrated in Figure 3. Sample location photographs include Photos #1 thru #4 (see Appendix A). Applicable sample documentation was recorded in a field log book (see Appendix B).

Analysis of groundwater samples was performed by the USEPA Houston Branch Laboratory, Houston, Texas for metals, cyanide, polychlorinated biphenyls (PCBs), and organics (volatile organic compounds, semivolatiles and pesticides). Summaries of chemical constituents detected are shown in Table 4. All groundwater analytical results are provided in Appendix C, samples GW-01 thru -04 and FB-03.

Based on a review of groundwater sample results, the only chemical constituent detected that qualified as a release (i.e., 3X the highest detected background level or above the sample quantitation limit) was low-level bis(2-ethylhexyl)phthalate at 9.9 ug/L detected in groundwater sample GW-03.

There were no detected inorganics, volatiles, cyanide, pesticides or PCBs in any of the groundwater samples that qualified as a release.

TABLE 3. GROUNDWATER SAMPLE LOCATIONS

Sample Matrix	Sample ID #	Sample Location	Rationale
Groundwater Samples	GW-01	City of Leonard Pump Station #1 (State Well No. 18-39-701) well located at the intersection of Wells / Ex. 9	Assess potential groundwater contamination from a municipal well located nearest to the site.
	GW-02	Duplicate groundwater sample from the same location as GW-01.	Quality Assurance/Quality Control (QA/QC).
	GW-03	City of Leonard Pump Station #2 (State Well No. 18-39-702) well located: Wells / Ex. 9	Determine the extent of groundwater contamination extending north of the site.
	GW-04	Arlidge Ridge Water Supply Corp. privately-owned drinking water well located: Wells / Ex. 9	Establish upgradient background values for attribution of contaminants to site sources.

TABLE 4 - INORGANIC AND ORGANIC GROUNDWATER SAMPLE RESULTS

Inorganic Constituents µg/L	8FAXDW02-01 GW-01 Pump Sta. No.1	8FAXDW02-02 GW-02 Duplicate GW01	8FAXDW02-03 GW-03 Pump Sta. No. 2.	8FAXDW02-04 GW-04 Background	CRDL µg/L
Calcium	856	981	987	947	150
Iron	ND	72	94	81	25
Magnesium	314	317	387	339	150
Manganese	5	5	ND	ND	5
Sodium	271,000	276,000	296,000	289,000	500
Organic Constituents ug/L	8FAXDW02-01 GW-01 Pump Sta. No.1	8FAXDW02-02 GW-02 Duplicate GW01	8FAXDW02-03 GW-03 Pump Sta. No. 2.	8FAXDW02-04 GW-04 Background	CRQL ug/L
Bis2-ethylhexyl phthalate	ND	ND	9.9	ND	4

CRDL = Contract Required Detection Limit.
ug/L = micrograms per liter.

CRQL = Contract Required Quantitation Limit.
ND = Analyte concentration undetected at the reported sample quantitation limit.

Surface Water Pathway

Characteristics

The Frank J. Doyle Transformer site is located within non-designated Segment No. 0306 at the western extreme of the Sulphur River Basin, which flows east joining the Middle and North Sulphur Rivers and converges with the Red River 308 miles downstream in Arkansas. The major tributaries of the Sulphur River are Days Creek and White Oak Bayou. The Sulphur River Basin drains an area of 3,558 square miles and includes 11 counties (ref 24, page 123). The drainage area upgradient of the site is estimated at 7 acres based on topographic map elevation contours (ref 21, page 1). During the SSI reconnaissance, it was noted that surface water at the site generally flows to the southeast along natural drainage areas collecting in the alleyway and bar ditch located east and adjacent to Poplar Street, thence flowing south to Hackberry Street where it pools at a culvert as shown in Figure 5. During periods of heavy runoff, the pooled water drains further south and east along roadside ditches seeking low areas (ref Appendix B, page 16). The city has few storm drains and the majority of the city's runoff is directed out of the city via drainage ditches (ref 5, page 6).

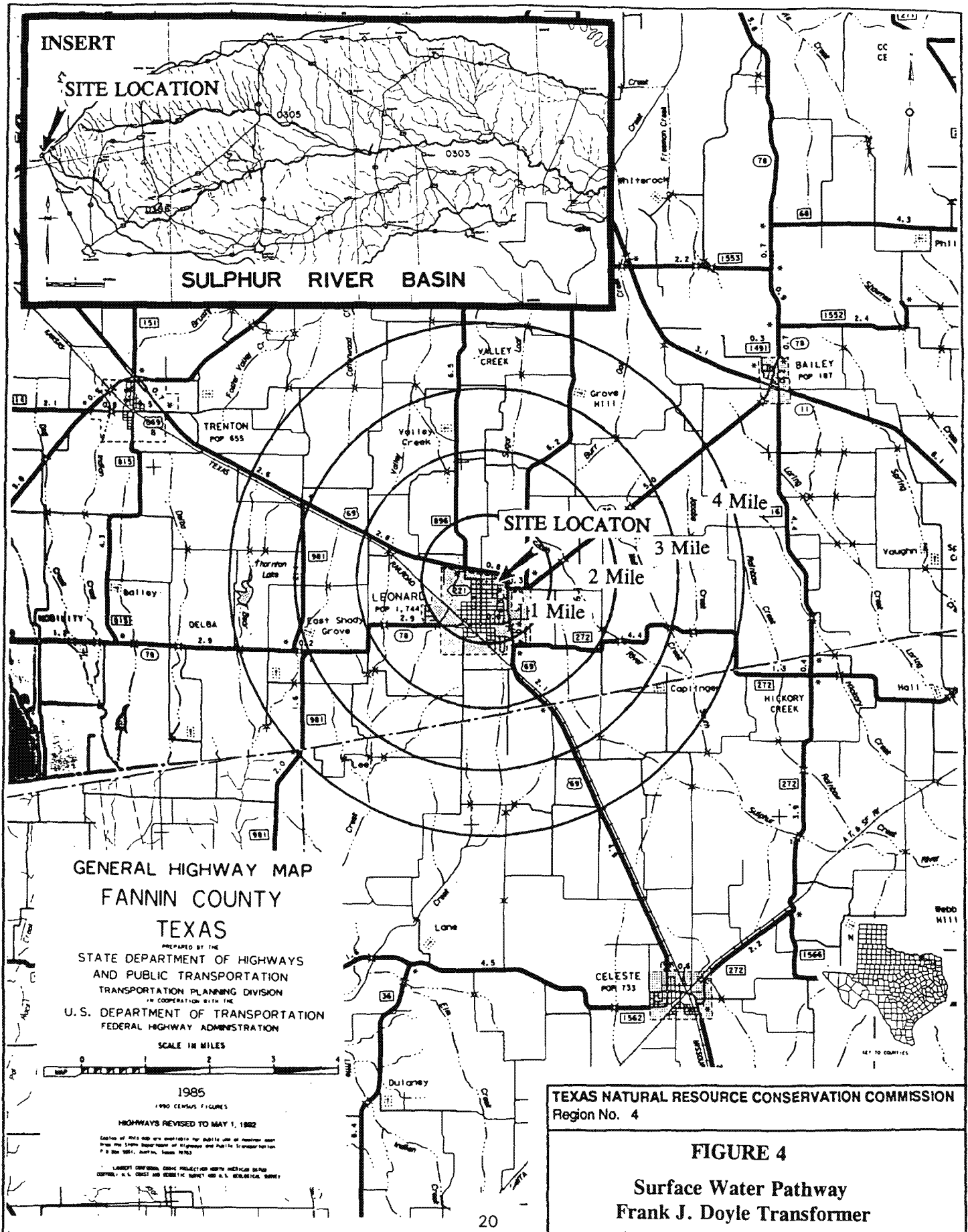
The site is not located within the 100-year flood boundary (ref 5, pages 6-7).

The 2-year 24-hour rainfall for the area of the site is approximately 4.0 inches (ref 25, page 95).

Targets

According to the PA, there are no identified perennial streams or receptor bodies of water located within the required two-mile target distance limit criteria (ref 5, page 6). Figure 4 supports this finding revealing a radial pattern of surface water pathways originating near the City of Leonard that appear to drain outward from a broad elevated plateau. By inspection, all streams located within a 4-mile radius of the site are identified as intermittent (ref 22, page 2). In addition, the insert of the Sulphur River Basin shown in the upper left portion of Figure 4 indicates no perennial streams in the vicinity of the site and that the headwaters of the South Sulphur River (Segment 0306) appear to originate in southwest Fannin County near the City of Leonard flowing east (ref 24, page 125).

Since there are no identifiable perennial streams or receptor bodies of water within the required target distance criteria that may have received wastes originating from site sources, the surface water pathway will not be evaluated. Contaminants that may have migrated near the site along the limited overland flow segment of the surface water pathway will be evaluated under the soil exposure pathway.



Soil Exposure Pathway

Characteristics

According to the PA, public access to the site is restricted by means of a 6 foot-high wooden fence surrounding the site with three entrance gates located along the west, south, and eastern perimeter, which was confirmed during the SSI reconnaissance. According to the facility manager, the entrance gates are normally locked after business hours and during business hours, someone is normally at the site to preclude inadvertent entry. Vehicular access is thru the east and south gates with parking areas provided for visitors. The west gate is for pedestrians only and opens to the owner's residence (ref 5, page 7; ref Appendix B, page 2).

As shown in Figure 1 and photos #33 and #34, Appendix A, adjacent land use near the site is primarily residential since the site is located near the northeast city limits of Leonard, Texas (population 1,744 -1990 Census). There are several city parks, public schools, churches and local retail businesses located within a 1-mile radius of the site. State Highway (SH) 69 is a major public roadway located approximately 500' north and east of the site (ref 21, page 1; Appendix B, page 3 and 8). During the SSI off-site reconnaissance, it was observed that surface water originating from site sources generally flows to the southeast only for a limited distance. The runoff collects within nearby bar ditches and pools in low spots near adjacent residential yards as shown in Photos #8 - #11 and #33, Appendix A (ref Appendix B, page 16).

Potential off-site runoff sources applicable to the soil exposure pathway include the three previously identified on-site waste management areas (summarized in Table 1) where PCB-contaminated soils have been documented (ref 5, pages 2-3 and 7).

Since there is a likelihood of surface soil contamination remaining at or near the site, primary soil exposure pathway targets include resident population, resident workers, terrestrial sensitive environments and nearby population threats, which are discussed in more detail in the following sections.

Targets

According to the PA, there were no on-site residences, day care centers or schools with occupants or persons in attendance who were within 200' of an identified area of observed contamination, which was substantiated during the SSI reconnaissance and interviews with knowledgeable site personnel. In addition, there were no parks or other established recreational areas observed on-site and located within 200' of an area of observed contamination. The nearest occupied residence (as shown in Figure 2 and Photo #34, Appendix A) was noted located approximately 40 feet south of the site across an alleyway (ref 5, page 8; ref Appendix B, page 12).

The number of on-site workers, according to Mr. Frank Doyle, has been no more than three (3) personnel; however, there are numerous transporters and waste haulers who frequently visit the site conducting business. During the SSI reconnaissance, there were no observed adjacent business properties with work stations located within 200 feet of an area of observed contamination (ref 5, page 8; ref Appendix B, pages 2 and 8).

According to the PA, nearby population targets within 200 feet of a site source include the adjacent Leonard High School with 225 students, the Leonard Junior High School with 200 students and the Leonard Elementary School with 300 students. School locations and student population data were substantiated during the SSI off-site reconnaissance and during interviews with knowledgeable school personnel. In addition, a child care center, the Leonard Integrated School District (LISD) Child Care Center) facility, which has a children's playground located in the back adjacent to the alleyway, was noted located within 200 feet of a site source as illustrated in Photo #36, Appendix A. According to the child care center director, there are 6 adult staff and 14 pre-school aged children who attend from 7:30 am to 4:00 pm five days a week (ref 5, page 8; ref Appendix B, pages 7, 37 and 46).

Since the site is still active, there is frequent human activity at the site related to off-loading and handling of out-of-service transformers and conducting metal recovery salvage operations which could result in workers being inadvertently exposed to remaining site contaminants. In addition, both during the PA and SSI site reconnaissances, numerous students of all ages were noted walking to and from school along alleyways located south of the site as illustrated in Photo #9, Appendix A, where PCB-contaminated soils have been documented (ref 5, page 8; ref Appendix B, page 8).

Based on a review of Fish and Wildlife Service topographic wetland maps, there are approximately 1 acre of wetland within 0 to ¼ mile of the site, 3 acres within ¼ to ½ mile of the site and 5 acres within ½ to 1 mile of the site (ref 26, page 1). It had not been established whether these wetlands had been exposed to site wastes. However, based on the localized drainage patterns identified during the SSI off-site reconnaissance, it is not likely that these wetlands were exposed to site contaminants transported along the surface water pathway (ref Appendix B, page 10).

Nearby population threat values within a 1-mile radius of the site were estimated during the PA using the 1990 Census data for the City of Leonard and a house count within distance categories. There are an estimated 1,503 individuals living within 1 mile of the site (ref 5, page 5 and 8).

Applicable waste categories and potentially contaminated areas at the facility were previously identified in the PA dated May 1997 and during a review of State and Federal records, as previously noted. As a result, a total of sixteen (16) soil samples including two duplicates were collected during the SSI to substantiate releases of

remaining on-site contaminants to adjacent soils.

During the SSI, three (3) grab soil samples (SO-01, SO-02 and SO-03) were collected at depths 0"-6" from three unaffected upwind/upgradient locations ranging from 0.7 miles northwest to 2.2 miles north of the site to identify normal occurring background levels for contaminant attribution. The sample with the highest detected background level for the contaminant of concern was identified and used to determine if a release had occurred from the site. i.e., greater than 3X the highest background value.

Three (3) additional 5-part composite soil samples (SO-04, SO-05 and SO-06) were collected at depths 0"-6" from grassy areas located adjacent to the Leonard High School facility to assess contaminants that may have been transported along the surface water pathway or by air deposition from normal site activities.

A total of ten (10) other soil samples were collected from nearby off-site locations to assess contamination that may have been transported via surface water runoff or by air deposition. Four (4) grab soil samples (SO-07, SO-08, SO-09/10) were collected at depths 0"-6" from three low areas within drainage ditches located along Poplar and Hackberry Streets with SO-10 a duplicate of SO-09. One (1) grab soil sample (SO-11) was collected at depth 0"-6" from a low spot in the bar ditch located along the residential yard located south of the site and one (1) 5-part composite soil sample (SO-12) was collected at depths 0"-3" from the nearby day care center playground area. In addition, three (3) grab soil samples (SO-13 and SO-14/15) were collected at depths 6"-12" from two low areas along the south alleyway with SO-15 a duplicate of SO-14. Finally, one (1) grab soil sample (SO-16) was collected at depth 0"-6" along the fenceline of the adjacent residential yard located west of the site.

A summary of off-site soil sample location/rationale is provided in Table 5 and approximate sample locations are shown in Figure 5. Sample location photographs include Photos #5 thru #18 (see Appendix A). Applicable sample documentation was recorded in a field log book (see Appendix B).

All off-site soil samples were analyzed for CLP metals, cyanide, polychlorinated biphenyls (PCBs), and CLP organics (volatiles, semivolatiles and pesticides). Inorganic analysis was performed by AATS, 1700 West Albany, Suite C, Broken Arrow, Oklahoma, and organic analysis performed by Clayton Environmental Consultants, 22345 Roethal Drive, Novi, Michigan. Summaries of chemical constituents detected above release criteria are shown in Tables 6a and 6b. All additional analytical results not qualifying as release concentrations are shown in Appendix C, Samples SO-01 thru SO-16, ER-01, ER-02, FB-01 and FB-02.

TABLE 5. SOIL SAMPLE LOCATIONS

Sample Matrix	Sample ID #	Sample Location	Rationale
Soil Samples	SO-01	Unaffected soil sample collected upgradient/upwind from site sources.	Obtain a background sample for attribution of site contaminants.
	SO-02	Unaffected soil sample collected upgradient/upwind from site sources.	Obtain a background sample for attribution of site contaminants.
	SO-03	Unaffected soil sample collected upgradient/upwind from site sources.	Obtain a background sample for attribution of site contaminants.
	SO-04	5-part composite 0"-6" deep from the grassy area north of the high school.	Assess contamination that may have migrated to the high school.
	SO-05	5-part composite 0"-6" deep from the grassy area west of the high school.	Assess contamination that may have migrated to the high school.
	SO-06	5-part composite 0"-6" deep from the grassy area south of the high school.	Assess contamination that may have migrated to the high school.
	SO-07	Grab soil sample from the drainage ditch along Hackberry Street east of Poplar.	Assess contamination that may have migrated along the SW drainage pathway.
	SO-08	Grab soil sample from the drainage ditch along Poplar Street south of Hackberry.	Assess contamination that may have migrated along the SW drainage pathway.
	SO-09	Grab soil sample from the drainage ditch along Poplar Street north of Hackberry.	Assess contamination that may have migrated along SW drainage pathway.
	SO-10	Duplicate soil sample of SO-09.	Quality Assurance/Quality Control (QA/QC).
	SO-11	Grab soil sample from a low spot near residential yard located south of the site.	Assess contamination that may have migrated along the SW drainage pathway.
	SO-12	5-part composite 0"-3" deep from the backyard of a child day care center.	Assess contamination that may have migrated along the SW drainage pathway.
	SO-13	Grab soil sample 6"-12" deep from the public alleyway located south of site.	Assess contamination that may have migrated from the container storage area.
	SO-14	Grab soil sample 6"-12" deep from the public alleyway located south of site.	Assess contamination that may have migrated from the transformer storage area.
	SO-15	Duplicate soil sample of SO-14.	Quality Assurance/Quality Control (QA/QC).
Source Samples	SO-16	Grab soil sample from a low spot in the residential yard located west of the site.	Assess contamination that may have migrated along the SW drainage pathway.
	SO-17	Grab soil sample 6"-12" deep from the transformer off-load area north of shop.	Assess source contaminants that may have originated from spilled transformer oils.
	SO-18	Grab soil sample 6"-12" deep from a low area north of container storage area.	Assess source contaminants that may have originated from spilled transformer oils.
	SO-19	Grab soil sample 6"-12" deep in an area west of the SE transformer storage area.	Assess source contaminants that may have originated from leaking transformers.

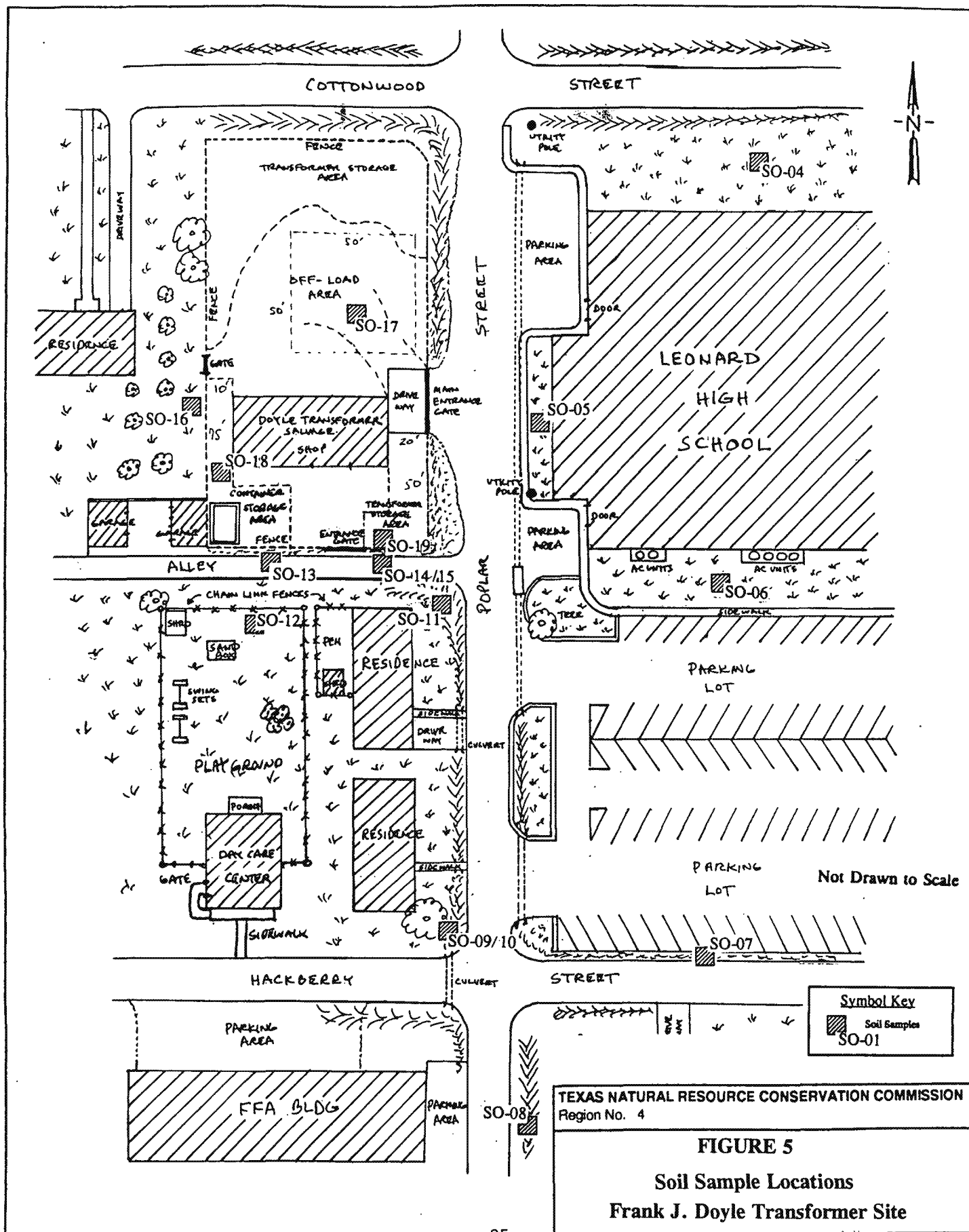


TABLE 6A Inorganic Releases in Soil Samples and Highest Background												
CLP Sample ID Number Sample Description	SO-07 MFH-M07 Hackberry St Bar Ditch	SO-08 MFH-M08 Poplar St Bar Ditch	SO-09 MFH-M03 Culvert at Hackberry St	SO-10DUP MFH-M04 Duplicate of SO-09	SO-11 MFH-M05 Nearest Res Bar Ditch	SO-13 MFH-M01 Alleyway W. Location	SO-14 MFH-M02 Alleyway E. Location	SO-15DUP MFH-L97 Duplicate of SO-14	SO-16 MFH-L98 Adjacent Res. Yard	SO-01 MFH-M13 Background Sample	SO-02 MFH-M14 Background Sample	SO-03 MFH-M09 Background Sample
Hazardous Substance	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]	mg/Kg [SQL]
Cadmium	0.45L [0.30]	0.75L [0.32]	0.42L [0.31]	0.48L [0.32]	1.1L [0.26]	0.85L [0.25]	0.77L [0.27]	1.3 [0.26]	0.39L [0.24]	ND [0.27]	0.41L [0.31]	ND [0.30]
Copper	98.4 [0.60]	42.7 [0.64]	105 [0.62]	115 [0.64]	1580 [0.52]	1760 [0.50]	1860 [0.54]	1390 [0.52]	1100 [0.48]	11.6 [0.55]	20.6 [0.61]	20.0 [0.60]
Lead	30.6 [0.60]	107 [0.64]	59.7 [0.62]	62.2 [0.64]	73.5 [0.52]	76.5 [0.50]	70.0 [0.54]	57.6 [0.52]	35.2 [0.48]	14.6 [0.55]	27.9 [0.61]	24.6 [0.60]
Cyanide	0.22L [0.08]	0.33L [0.08]	0.35L [0.08]	0.80 [0.08]	0.22L [0.07]	0.23L [0.06]	0.29L [0.07]	0.25L [0.07]	0.18L [0.06]	0.27LUC [0.07]	0.12LUC [0.08]	0.22L [0.08]
Reference												

CRDL = Contract Required Detection Limit.

[SQL] = Sample Quantitation Limit.

■ = Meets observed release criteria.

LUC = Between IDL and CRDL and should be used as a raised detection limit because of apparent blank interference.

L = Reported concentration is between IDL and the CRDL.

ND = Undetected at the laboratory reported detection limit.

CLP = Contract Laboratory Program.

mg/Kg = milligrams per kilogram.

IDL = Instrument Detection Limit.

<p align="center">TABLE 6B Organic Releases in Soil Samples and Highest Background</p>												
CLP Sample ID Number Sample Description	SO-07 FFR85 Hackberry St Bar Ditch	SO-09 FFR81 Culvert at Hackberry St	SO-10DUP FFR82 Duplicate of SO-09	SO-11 FFR83 Nearest Res Bar Ditch	SO-11DL FFR83DL Dilution of SO-11	SO-13DL FFR79DL Alleyway W. Location	SO-14DL FFR80DL Alleyway E. Location	SO-15DUPDL FFR75DL Duplicate of SO-14	SO-16DL FFR76DL Adjacent Res. Yard	SO-01 FFR91 Background Sample	SO-02 FFR92 Background Sample	SO-03 FFR87 Background Sample
Hazardous Substance	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]	ug/Kg [SQL]
Phenanthrene	640 [490]	290J [520]	170J [510]	420J [515]	**	**	**	**	**	ND [460]	200J [500]	ND [500]
Fluoranthene	1,500 [490]	620 [520]	470J [510]	1,200 [515]	**	**	**	**	**	ND [460]	120L [500]	ND [500]
Pyrene	1,600 [490]	510J [520]	410J [510]	1,000 [515]	**	**	**	**	**	ND [460]	170J [500]	ND [500]
Benzo (a) anthracene	640 [490]	220J [520]	190J [510]	580 [515]	**	**	**	**	**	ND [460]	59J [500]	ND [500]
Chrysene	1,000 [490]	470J [520]	410J [510]	1,100 [515]	**	**	**	**	**	ND [460]	69J [500]	ND [500]
Bis2-Ethylhexyl phthalate	ND [490]	ND [600]	ND [510]	710B [515]	**	**	**	**	**	ND [460]	ND [500]	ND [500]
Benzo (b) fluoranthene	810 [490]	380J [520]	340J [510]	1,400 [515]	**	**	**	**	**	ND [460]	38J [500]	ND [500]
Benzo (k) fluoranthene	1,100 [490]	300J [520]	250J [510]	1,000 [515]	**	**	**	**	**	ND [460]	47J [500]	ND [500]
Benzo (a) pyrene	840 [490]	310J [520]	250J [510]	840 [515]	**	**	**	**	**	ND [460]	51J [500]	ND [500]
Indeno (1,2,3-cd) pyrene	1,100 [490]	360J [520]	320J [510]	1,400 [515]	**	**	**	**	**	ND [460]	30J [500]	ND [500]
Benzo (g,h,i) perylene	1,500 [490]	420J [520]	320J [510]	1,500 [515]	**	**	**	**	**	ND [460]	42J [500]	ND [500]
PCBs Aroclor-1260	420J [400]	2,800J [415]	3,000J [410]	21,000* [515]	35,000J [5,200]	94,000J [21,200]	3,000,000J [459,000]	4,100,000J [446,000]	85,000J [3,900]	ND [46]	33J [500]	340J [50]
Dilution Factor	1	1	1	1	100	100	10,000	10,000	100	1	1	1
Reference												

ND = Not detected at the reported quantitation limit.

* = Result not recommended for use because of associated QA/QC performance inferior to that from other analysis.

** = Original sample was not diluted.

■ = Meets observed release criteria.

[SQL] = Sample Quantitation Limit.
CLP = Contract Laboratory Program.
ug/Kg = micrograms per kilogram.
PCBs = polychlorinated biphenyls.

J = Estimated value.

Table 6a reveals three (3) inorganic constituents and cyanide detected in nine of fourteen off-site soil samples that were greater than three times (3x) the highest detected background concentrations. Soil samples SO-7, SO-9/10 and SO-11 collected from the bar ditches located south and east of the site, samples SO-13 and SO-14/15 collected along the south alleyway and sample SO-16 collected from the adjacent residential yard indicated low-level to moderate releases of **copper**. The releases, when compared to the highest background concentration ($3 \times 20.6 \text{ mg/kg} = 61.8 \text{ mg/kg}$) identified from soil sample SO-02, ranged from 98.4 mg/kg to 1,860 mg/kg. Soil sample SO-15 (a duplicate of SO-14) indicated a low-level release of **cadmium** at 1.3 mg/kg, and SO-08 indicated a low-level release of **lead** at 107 mg/kg when compared to respective SO-02 background soil sample concentrations ($3 \times 0.41 \text{ mg/kg} = 1.2 \text{ mg/kg}$; $3 \times 27.9 \text{ mg/kg} = 83.7 \text{ mg/kg}$). In addition, the duplicate soil sample SO-10 indicated a low-level release of **cyanide** at 0.80 mg/kg when compared to the highest background soil sample concentration identified from SO-03 ($3 \times 0.22 \text{ mg/kg} = 0.66 \text{ mg/kg}$).

Table 6b reveals eleven (11) semi-volatile organic constituents and a PCB detected in eight of fourteen soil samples that were greater than three time (3x) the highest detected background level for the contaminant of concern or above the sample quantitation limit (SQL). Soil sample SO-07 indicated a low-level release of **phenanthrene** at 640 ug/kg, soil samples SO-07, SO-09 and SO-11 indicated low-level releases of **fluoranthene** ranging from 620 ug/kg to 1,500 ug/kg, and soil samples SO-07 and SO-11 indicated low-level releases of **pyrene** at 1,600 ug/kg and 1,000 ug/kg, **benzo(a)anthracene** at 640 ug/kg and 580 ug/kg, **chrysene** at 1,000 ug/kg and 1,100 ug/kg, **benzo(b)fluoranthene** at 810 ug/kg and 1,400 ug/kg, **benzo(k)fluoranthene** at 1,100 ug/kg and 1,000 ug/kg, **benzo(a)pyrene** at 840 ug/kg each, **indeno(1,2,3-cd)pyrene** at 1,100 ug/kg and 1,400 ug/kg and **benzo(g,h,i)perylene** at 1,500 ug/kg each. In addition, soil sample SO-11 indicated a qualified low-level release of **bis(2-ethylhexyl)phthalate** at 710 ug/kg. The **PCB Aroclor-1260** was detected in soil samples SO-07, SO-09/10, SO-11, SO-13, SO-14/15 and SO-16 at moderate to significantly elevated concentrations ranging from 2,800 ug/kg to 4,100,000 ug/kg requiring multiple dilutions (see dilution factors, Table 6b) to obtain laboratory quantifiable values that were determined as qualified data.

There were no detected volatiles or pesticides in any of the off-site soil samples that qualified as a release.

Air Pathway

Characteristics

The site has operated as a privately-owned/operated metal recovery salvage yard at its present location since 1974. Fugitive air emissions result from normal site activities associated with the movement and processing of out-of-service power transmission transformers to recover used oil and scrap metal. The used transformers are received from various suppliers, off-loaded by forklift and stored on site until they are processed. Interviews conducted during the SSI with the facility manager revealed metal recovery operations start by draining the small amount of residual oil remaining in the transformers casings to 55-gallon drums or to designated storage tanks located on a bermed concrete pad. The drained oils are accumulated and stored on site for later disposal. After initial draining, the transformer cores are removed from their casings and placed on drip trays to further drain and then baked in a heat oven to remove remaining varnish, paper and oil. The cooled copper or aluminum cores are finally stripped and the recovered metal sold for salvage. When the storage tanks are full, the used transformer oil is pumped to a vacuum truck for shipment to an authorized recycling/disposal facility. Photographs of salvage operations taken during SSI interviews are illustrated in photos #25 thru #31 and the heat oven/stack are illustrated in photos #29 and #32, Appendix A (ref 5, pages 1-2; ref Appendix B, page 2).

In January 1988, the owner applied to the TACB for a special air operating (construction) permit for installation of a heat-cleaning oven to burn off residual oil, paper and varnish from drained transformer cores. After a lengthy public review and a hearing convened at the Leonard High School on March 22, 1988, the special air operating permit was approved (ref 8, atch A, pages 1-10; ref 9, atch 2). On April 22, 1989, the facility submitted a permanent Air Operating Permit No. T-18612 to the TACB for approval. The permit was reviewed for potential air emissions, approved and issued effective April 5, 1991, but contingent upon special provisions identified for operating the heating unit (ref 10, page 1 and atchs 1-3). Based on air emissions modeling conducted during the permit review, it was concluded that maximum allowable regulated air emission standard would not be exceeded. The analysis was based on operating parameters of not more than 10% by weight of combustible material per load, PCB levels in residual oils of less than 50 parts per million (ppm), and oven operating temperatures would be maintained within the manufacturer's specified range (ref 7, pages 1-3 and atchs 1-5).

Based on an annual operating period of no more than 10 hours per day, 3 days per week and 40 weeks per year, calculated air emissions were identified as follows (ref 8, atch A, page 3):

<u>Air Contaminant</u>	<u>Calculated Concentrations*(ug/m³)</u>	<u>Avg Period</u>	<u>Permissible Max Allowed*</u>	<u>Avg Period</u>
Particulate Matter (PM)	3.0	1 hour	150	24 hours
Sulfur Oxides (SOX)	0.24	30 minutes	365	24 hours
Nitrogen Oxides (NOX)	0.09	annual	100	1 year
Carbon Monoxide	2.1	1 hour	40,000	1 hour
Polychlorinated Biphenyls (PCBs)	8.2×10^{-4}	30 minutes		
Polychlorinated Biphenyls (PCBs)	1.4×10^{-5}	annual		

* micrograms per cubic meter

Based on the above emission rates and a projected annual operating period, the calculated PCB emissions were 4.05×10^{-6} tons per year, which is equivalent to 0.129 ounces per year. Based on the air modeling results, PCB emissions were determined insignificant (ref 8, atch A, page 3; ref 9, atch 2).

There are no records of air monitoring conducted at the facility. In addition, there is no analytical data available documenting any off-site migration of airborne transported hazardous substances from on-site sources. During both the PA and SSI on-site reconnaissance, there were no visible emissions noted or any indications of an air release. During the SSI interview, the facility manager indicated that any visible emissions (i.e., smoke) coming from the shop area would have originated from a wood stove used to heat the facility which was used frequently during cold weather (ref 5, page 9; ref Appendix B, page 2).

Although located a significant distance from the site as indicated in the lower left insert of Figure 6, the City of Dallas Love Field is the nearest weather station with recorded wind frequency and intensity data. The Love Field wind rose showing predominant wind directions and velocity is provided in Figure 6. Based on wind data recorded from 1957-62, the predominant winds are from the south and north (170° to 190° and 350° to 010°) 23.7% of the time. Wind speeds are calm 5.59% of the time and less than 13 knots 55.4% of the time. Winds in excess of 25 knots occur only 0.9% of the time (ref 23, page 1).

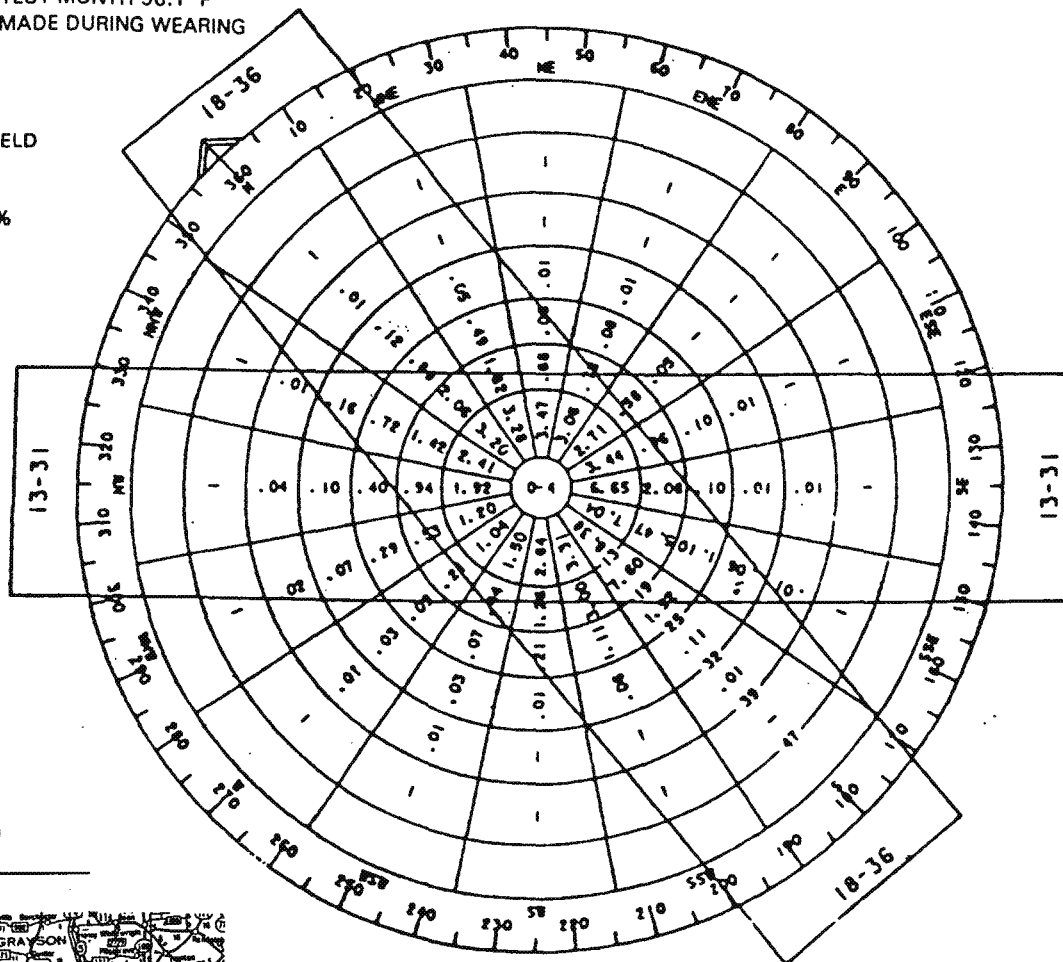
Targets

Since there are no documented releases or suspected releases to the air pathway and based on air modeling predictions indicating the amount of contamination generated from the heat cleaning oven was considered insignificant, the air pathway was not evaluated during the SSI. Contaminants that may have migrated from identified waste management areas (summarized in Table 1) resulting from fugitive dust emissions generated during normal facility operating activities were evaluated from samples collected for the soil exposure pathway.

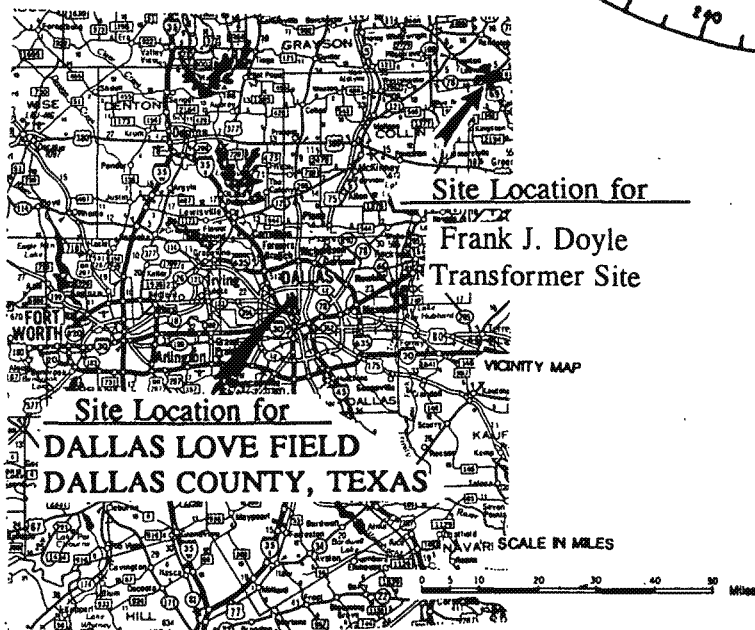
WIND ROSE

AIRPORT: LOVE FIELD
 LOCATION: DALLAS, TEXAS
 REMARKS: FROM R. DIXON SPEAS (N.Y.)
 SOURCE: U.S. WEATHER BUREAU AT LOVE FIELD
 PERIOD: SEPT. 1957 THROUGH AUG. 1962
 MEAN MAX. TEMP. HOTTEST MONTH 96.1° F
 COVERAGE LOVE FIELD MADE DURING WEARING
 N/S - 91.60
 NW/SE - 96.48
 COMB. - 99.20
 TRUE BEARINGS LOVE FIELD
 13-31 = N. 44° 50' W.
 18-36 = N. 04° 40' E.
 CALMS 0-4 M.P.H. 5.59%

WIND ROSE



INSERT



TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
 Region No. 4

FIGURE 6
 Wind Rose Data
 Frank J. Doyle Transformer Site

SECTION 3

ANALYTICAL DATA ASSESSMENT

Laboratories:

The soil and equipment rinsate samples were analyzed for metals and cyanide by **Clayton Environmental Services** in **Novi, MI**. Volatiles, semivolatiles and pesticides were analyzed by **AATAS Laboratory** in **Broken Arrow, OK**. The drinking water samples were analyzed for volatiles, semivolatiles, pesticides/PCBs, metals and cyanide by the **EPA Region 6 Environmental Laboratory** in **Houston, TX**.

The resulting CLP data packages were reviewed and validated by EPA Region 6 according to the USEPA CLP Statement of Work for Inorganic Analysis (Document Number ILMO4.0), Organic Analysis (Document Number OLM03.1), and National Functional Guidelines for Organic Data Review (EPA 1994) and Inorganic Analyses (EPA 1994). The EPA data validation reports are included in **Appendix C**. The resulting drinking water data package was reviewed and validated by EPA Region 6 Environmental Laboratory.

Quality Assurance/Quality Control (QA/QC) Review

According to the Quality Assurance Project Plan (QAPP) for the TNRCC Preliminary Assessment/Site Inspection Program (FY 98), the TNRCC has reviewed the inorganic and organic analyses and the ESAT data validation reports, and concurs with the ESAT assessments. TNRCC has further assessed the usability of the data for Superfund decision-making, including the scoring of this site.

Four (4) Sample Data Groups (SDG) comprising the nineteen (19) soil, two (2) field blanks and two (2) equipment rinsate samples were evaluated for this site. SDG MFHL94 refers to the soil inorganic analyses. SDG MFHL25 refers to rinsate inorganic analyses. SDG FFR76 refers to the soil organic analyses and SDG FFR69 refers to the soil, equipment rinsate and field blank organic analyses.

Accuracy

ICP Interference Check Samples (ICS)

ICP Interference Check Samples (ICS) were analyzed at the beginning and end of each sample analysis run and no analytes were detected at levels near the interferant levels.

Laboratory Control Samples (LCS)

Lab Control Samples (LCS) were conducted at adequate frequencies and the analytes had acceptable percent recoveries.

Tuning

For organics, the Bromofluorobenzene (BFB) and Decafluorotriphenylphosphine (DFTPP) instrument performance checks met the ion abundance criteria. Endosulfan I and alpha-chlordane coeluted on Column DB-5MS while their retention time windows overlapped on column DB-608. These problems did not affect the identification of Pest/PCB target analytes above CRQL levels in the samples.

Internal Standards

Volatile, semivolatile and pesticide internal standards for all the samples were within the QA/QC criteria specified.

System Monitoring Compounds/ Surrogate Recoveries

Volatile system monitoring compounds recoveries were acceptable for all samples.

Semivolatile surrogate recoveries were acceptable for all samples.

Matrix Spike Recoveries

FFR76: Coeluting aroclor interferences caused outlying MS/MSD results for the Pest/PCB fraction. AR1260 peaks were reported as endrin at such high concentrations in the native and spiked Pest/PCB samples that spiked concentrations of endrin were masked, causing zero or negative MS/MSD recoveries for that analyte. Zero percent MS/MSD recoveries were reported for DDT because AR1260 peaks obscured its detection. These interferences resulted in the sample result qualifications as noted in the data summary report.

All volatile analytes had MS/MSD recoveries within the QC limits.

All semivolatile analytes had MS/MSD recoveries within the QC limits.

Blanks

MFHL25: rinsate sample MFHL25 contained zinc above the CRDL and eight other analytes at concentrations below the CRDL's. The sodium and zinc concentrations in sample MFHL25 were due to preparation blank concentrations of these analytes. Rinsate sample MFHL96 contained lead at a concentrations above the CRDL and 10 other analyte concentrations below the CRDL's. The aluminum, arsenic, calcium and zinc concentrations in sample MFHL96 were due to calibration or preparation blank concentrations of these analytes. However, the EPA data summary tables reflect the qualifications and presents several results as undetected with raised sample quantitation limits (SQLs). The raised SQLs did not affect release calculations' results.

No contaminants other than common laboratory contaminants, and several tentatively identified compounds were detected in the method blank results for the organic analyses. The common laboratory contaminants when detected were qualified as estimated with raised sample quantitation limits.

Precision

Field Duplicates:

Field duplicate results were acceptable

Release samples affected: None

Inorganic Laboratory Duplicates

For SDG MFHL94, the aluminum sample results were qualified as estimated because the duplicate difference exceeded the technical QC limit. The chromium difference exceeded the SOW QC limit but was below the technical limit, so the chromium sample results were not qualified.

Organic Matrix Spike Duplicate

The %RPD exceeded the QC limits for toluene in VOA low soil analysis and for all BNA matrix spiking compounds in the medium level soil analysis. Since these TCL analytes were not detected above the CRQL's in the unspiked samples, results were not qualified.

ICP replicates reading

Analytes exceeding the coefficient of variation of 20 percent: selenium in samples MFHL94, MFHL97, MFHL99, MFHM00, MFHM09 and MFHM14.

Release samples affected: None

Representativeness

Field Blanks

Rinsate samples FFR69 and FFR74 were free from Pest/PCB contamination. The field blanks and rinsate samples contained acetone, chloroform, 4-chloro-3-methylphenol, or diethylphthalate below the CRQL's. In addition, one of the rinsate samples contained acetone at the CRQL level. Sample results were not qualified based on field contamination.

Rinsate Samples

Decontamination Event #14 Case Number 25725 and SDG Numbers: MFGQ96 and FEY35

The equipment rinsate and blank were analyzed for metals and cyanide by **Chemtech Laboratory** in **Englewood, NJ**. Volatiles, semivolatiles and pesticides were analyzed by **Datachem Laboratory** in **Salt Lake City, Utah**.

All sediment and soil samples were collected in dedicated bowls and spoons. The resulting data packages were reviewed and validated by EPA Region 6. The EPA data verification reports are included in **Appendix C**.

The following is a brief conclusion from the TNRCC review of the inorganic and organic analyses of these samples.

The analysis of the equipment rinsate sample, MFGQ97, revealed detectable amounts of the following analytes:

Analyte (ug/L)	MFGQ97 (rinsate)	MFGQ96 (field blank)	Calibration Blank Concentrations	IDL (ug/L)	CRDL (ug/L)
Aluminum	6.0(U)	24.5(LUC)*	46	6.0	200
Calcium	32.4(LUC)*	41.8(LUC)*	45.2	7.0	5000
Copper	1.1(LJ _v)	1.0(U)	1.0	1.0	25
Magnesium	13.0(U)	29.6(LUC)*	46.1	13.0	5000
Manganese	1.9(L)	1.0(U)	1.0	1.0	15
Silver	1.1(LUC)*	1.0(U)	1.3	1.0	10
Sodium	155(L)	130(L)	20	20.0	5000
Zinc	4.9(LUC)*	2.0(U)	2.0	2.0	20

Notes: U = Analyte concentration undetected at the laboratory reported detection limit (IDL).
J = The value is an estimated concentration because one or more quality control criteria have not been met.
J_v = Estimated value at the reported sample quantitation limit and biased low.
L = Reported concentration is between the IDL and the CRDL.
UC = Reported concentration should be used as a raised detection limit because of apparent blank contamination.
* = considered undetected because of calibration blank concentrations of these same analytes.

The sample results for calcium, silver and zinc detected in the equipment rinsate sample are considered undetected because of the calibration blank concentrations of these same analytes. Please note that the field blank, sample MFGQ96, was composed of only ultra-distilled water.

Release samples affected: **None** - TNRCC decontamination procedures did not cause any concentrations of the inorganic target analytes from this site screening inspection to be disqualified as releases. The TNRCC concludes that the decontamination procedures of the bowls and spoons did not contribute contamination to the samples.

For organics, the analysis of the equipment rinsate sample, FEY35, revealed detectable amounts of the following analytes:

Analyte (ug/L)	FEY36 (rinsate)	FEY35 (field blank)	CRQL (ug/L)
Phenol	1(J)	4(J)	10
4-Methylphenol	0.4(J)	12(U)**	10
4-Chloro-3-methylphenol	0.5(J)	0.4(J)	10
Diethylphthalate	0.9(J)	0.5(J)	10
Di-n-butylphthalate	1(J)	0.8(J)	10

Notes: U = Analyte concentration undetected at the reported sample quantitation limit.
J = The value is an estimated concentration because one or more quality control criteria have not been met.
** = Sample volume = 800 ml

The samples did not contain any Target Compound List (TCL) analytes above the Contract Required Quantitation Limit (CRQL). The sample results for these analytes detected in the equipment rinsate sample are considered contamination introduced by the decontamination procedure. The data qualification for the sample results was necessary because the concentrations are below the Contract Required Quantitation Limit (CRQL). Please note that the field blank, sample FEY35, was composed of only ultra-distilled water.

Release samples affected: **None** - the contamination incurred through TNRCC decontamination procedures did not cause any concentrations of the organic target analytes from this site screening inspection to be disqualified as releases. The TNRCC concludes that the decontamination procedures of the bowls and spoons did not critically contribute contamination to the samples.

Four additional equipment rinsate samples were collected in the field. Several inorganic and organic constituents were detected. However, these did not affect any release samples.

Holding Times

All the Pest/PCB soil samples were 15 days past the contractual holding time limit. Technical holding times have not yet been established for soil samples. However, per region 6 guidelines, the AR1260 results for Pest/PCB samples FFR72, FFR72, FFR75, FFR77, FFR78, FFR79, FFR80 and FFR88 were qualified as estimated because the

technical holding time of the samples was 26 days. The laboratory received all samples at slightly elevated cooler temperatures (6.6°C and 7.8°C).

Comparability

Methodology

Standard EPA methodology was conducted.

ICP Calibrations

ICP inorganic analyte recoveries from calibration solutions met criteria and were conducted at adequate frequencies. ICP standard calibrations for the analytes were within limits.

Organic Initial and Continuing Calibration

Most organic target analytes met the percent relative standard deviation initial calibration criteria and the percent difference continuing calibration criteria. A few target analytes were outside percent difference criteria, but since these are common laboratory contaminants they were not considered to have affected the data.

Serial Dilution

SDG MFHL94: the calcium and zinc sample results were qualified as estimated because the percent differences exceeded the QC limit. The serial dilution results were higher than the undiluted results, indicating that matrix interferences suppressed the signals for those analytes. Therefore, the calcium and zinc sample results were also qualified as low biased.

Other ICP Criteria

The instrument detection limits, the ICP interelement correction factor, and the ICP linear range requirements were met.

EPA Contractual Assessment

EPA contractual assessment of the data packages documented a few items of contractual noncompliance. These items are listed by SDG number in the EPA data validation reports included in Appendix C, and did not disqualify any release constituents.

Field Custody

Custody seals were all present and intact. Sample condition was reported as intact for each sample received.

Completeness

Number of sample results rejected: 68

Calculated % completeness: 97.8%

All acceptable CLP inorganic and organic data reported herein represent good quality data of reasonable confidence, and are suitable for use in Superfund decision-making, including the scoring of this site.

SECTION 4

CONCLUSIONS

Only the groundwater and soil exposure pathways have been evaluated in this report. The surface water pathway was not evaluated because of the limited overland flow segment and lack of identifiable perennial receptor bodies of water located within required target distance criteria. The air pathway was not evaluated for lack of a documented air release. Source samples were collected to substantiate and further characterize source contaminants as discussed under the soil exposure pathway.

Groundwater Pathway - Inorganic and organic compound analysis of three (3) drinking well water samples and a duplicate (GW-01 thru GW-04) indicated a single low-level release of **bis2-ethylhexylphthalate** in groundwater sample GW-03 collected from the City of Leonard Pump Station No. 2 well when compared to an unaffected background well water sample. However, this organic compound is a common laboratory contaminant, therefore, may not have originated from site sources. No other inorganics, volatiles, pesticides, PCBs or cyanides were detected in any of the well water samples which would have qualified as a release. Therefore, based on a review of SSI groundwater sample results indicating no identifiable contaminants attributed to site sources, the groundwater pathway is not of concern.

Soil Exposure Pathway - Inorganic compound analysis of seventeen (17) soil samples and two duplicates (SO-01 thru SO-19) collected at various on- and off-site locations indicated moderate to elevated releases of **copper** and single low-level releases of **cadmium**, **lead** and **cyanide** when compared to unaffected background levels.

- Moderate levels of **copper** were detected at two on-site source sample locations, SO-17 in the north central transformer off-load area at depth 6" - 12" and at SO-18 in the southwest container storage area at depth 6" - 12". Both were obtained just below compacted gravel bases located in each area.
- A review of off-site soil sample results indicated moderate releases of **copper** at bar ditch locations SO-07 and SO-09/10 (dup) with an elevated **copper** release detected at SO-11 located adjacent to the nearest residence. Additional elevated **copper** releases were detected at alleyway locations SO-13 and SO-14/15 (dup) and in the residential yard located west of the site at sample location SO-16. The soil samples from the alleyway were obtained at depth 6" - 12" just below a compacted gravel road base. A single low-level release of **cadmium** was detected in the duplicate east alleyway soil sample SO-15 and a low-level **lead** release was detected at bar ditch location S-08 along the east side of Poplar Street south of Hackberry. Finally, a single low-level release of **cyanide** was detected in duplicate soil sample SO-10 at the northwest culvert location where Poplar Street intersects Hackberry.

Based on a review of SSI inorganic soil sample results, it may be concluded that the detected off-site copper releases most likely originated from known site sources as substantiated by on-site source soil sample results. However, the detected off-site releases of cadmium, lead and cyanide were not similarly replicated in source samples, therefore could not be attributed to site sources.

Organic compound analysis of soil samples indicated low-level to moderate releases of several semi-volatile organic compounds and moderate to significantly elevated releases of the **PCB Aroclor-1260** at off-site sample locations when compared to unaffected background levels.

- A moderate level of the semi-volatile organic compound hexachlorobenzene and significantly elevated levels of **PCB Aroclor-1260** were detected at on-site source sample location SO-18 located in the southwest container storage area at depth 6" - 12". In addition, elevated levels of **PCB Aroclor-1260** was detected at on-site sample location SO-19 located in the southeast transformer storage area at depth 6" - 12". There were no volatile organic compounds or pesticides detected in any of the other on-site source soil samples.
- Off-site low-level releases of the semi-volatile organic compounds phenanthrene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, bis(2-ethylhexyl)phthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene and benzo(g,h,i)perylene were detected at bar ditch locations SO-07, SO-09 and SO-11. In addition, moderate releases of the **PCB Aroclor-1260** were detected at bar ditch location SO-09/10 (dup) with significantly elevated releases detected at bar ditch location SO-11, alleyway locations SO-13, SO-14/15 (dup) and in the residential yard located west of the site at sample location SO-16. There were no detected volatiles or pesticides in any of the other off-site locations that qualified as a release.

Based on a review of SSI organic soil sample results, it may be concluded that the detected off-site **PCB Aroclor-1260** releases most likely originated from identified site sources as substantiated by on-site source soil sample results. However, the detected releases of semi-volatile organic compounds could not be similarly attributed to site sources.

As a result, the nearest occupied residence (single family unit located at Personal Address / Ex. 6) Personal Address / Ex. 6 the 3 full/part-time employees who work at the F. J. Doyle Salvage Transformer facility, the 725 students who attend nearby schools, the 6 adult staff and 14 pre-school children who attend the nearby day care center and approximately 1,503 nearby individuals estimated living within 1 mile of the site are the targets of concern for the soil exposure pathway. The full extent of remaining on- and off-site soil contamination has not been established.

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APPENDIX A

Site Photographs



Photo #1 - (8:50 am) Well water sample GW-01 and a duplicate GW-02 were collected from the City of Leonard Water Supply Well No. 1 as shown above. Photo taken facing west.



Photo #2 - (9:30 am) Well water sample GW-03 was collected from the City of Leonard Water Supply Well No. 2 as shown above. Photo taken inside pump house facing south.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
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Frank J. Doyle Transformer Site
305 E. Cottonwood Street, Leonard, TX
TXD 980865109
Site Visit: 12-14 January, 1998
Site Photographer: J. D. Thompson

Frank J. Doyle Transformer Site
TXD980865109

Site Visit: 12-14 January, 1998

Site Photographer: J. D. Thompson



Photo #3 - (10:10 am) Overview photo of Well No. 2 owned by the Arledge Ridge Water Supply Corporation located Well / Ex. 9 used as the background well sample. Photo taken facing northwest.

Photo #4 - (10:30 am) Well water sample GW-04 (triple volume) was collected from the well head prior to chlorination as shown below. Photo taken facing north.

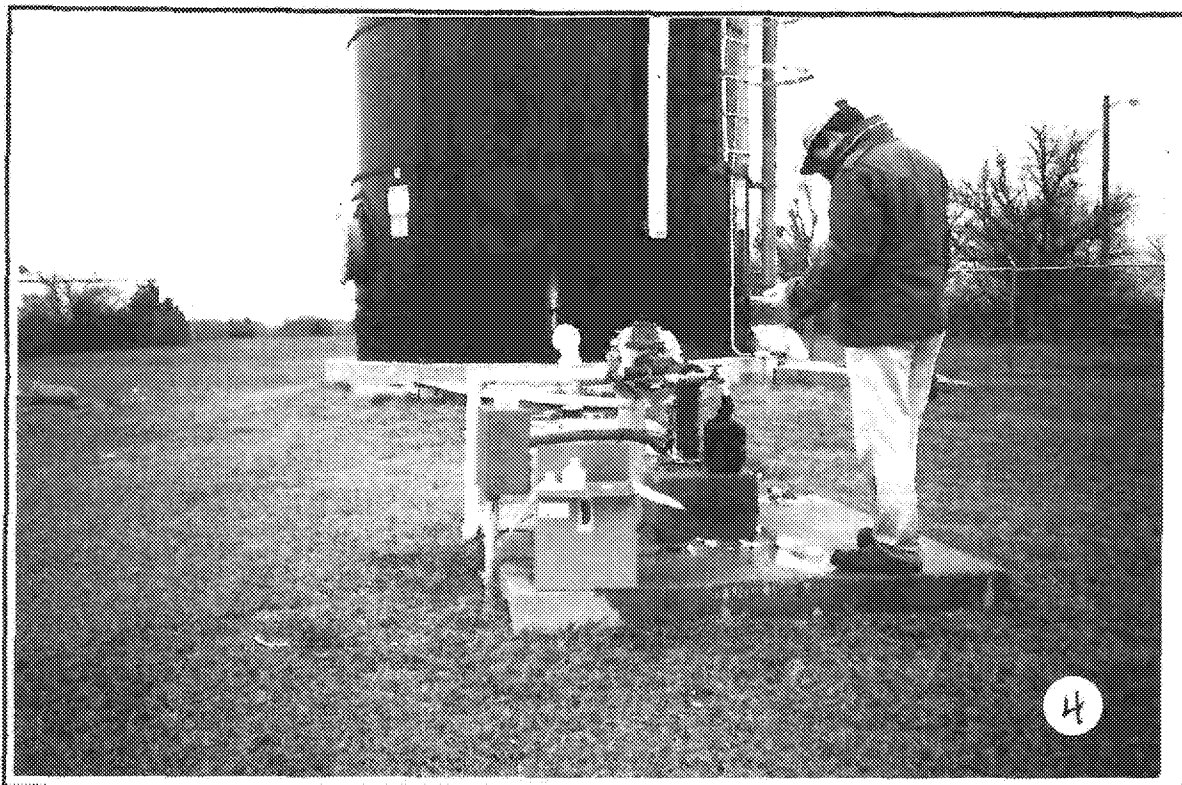




Photo #5 - (13:30 pm) A background soil sample SO-01 was collected from a wooded area located north of FM 4725 approximately 2 miles north of the site at a depth 0"-6" deep as shown above. Photo taken facing south.

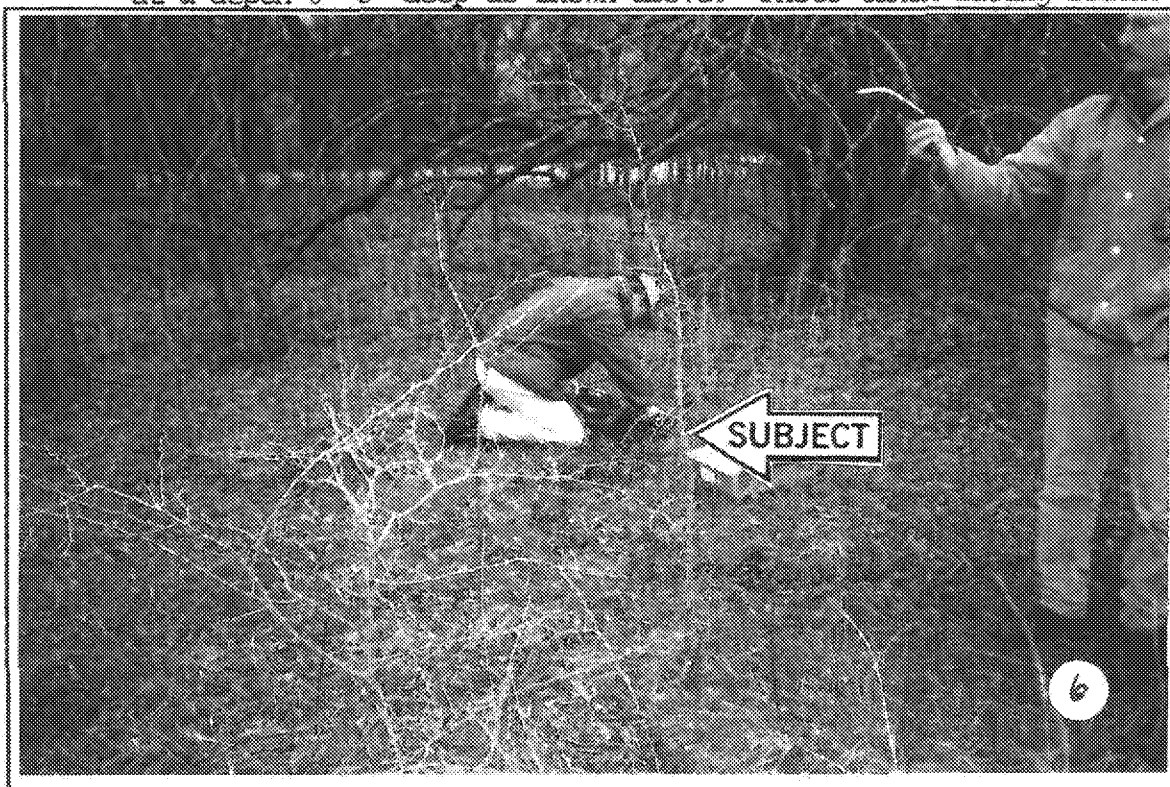


Photo #6 - (13:45 pm) A second background soil sample SO-02 was collected from a wooded area located west of FM 4220 approximately 2 miles north of the site at a depth 0"-6" deep as shown above. Photo taken facing west.

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Photo #7 - (14:20 pm) A third background soil sample SO-03 was collected from a grassy area 500' west of FM 4720 and 1,000' north of Hwy 69 at a depth 0"-6" deep as shown above. Photo taken facing south.



Photo #8 - (14:55 pm) A soil sample SO-07 was collected along the bar ditch along Hackberry Street just south of the high school parking lot at a depth 0"-5" deep as shown above. Photo taken facing northwest.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
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Frank J. Doyle Transformer Site
305 E. Cottonwood Street, Leonard, TX
TXD980865109

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Site Photographer: J. D. Thompson

PII / Ex. 6

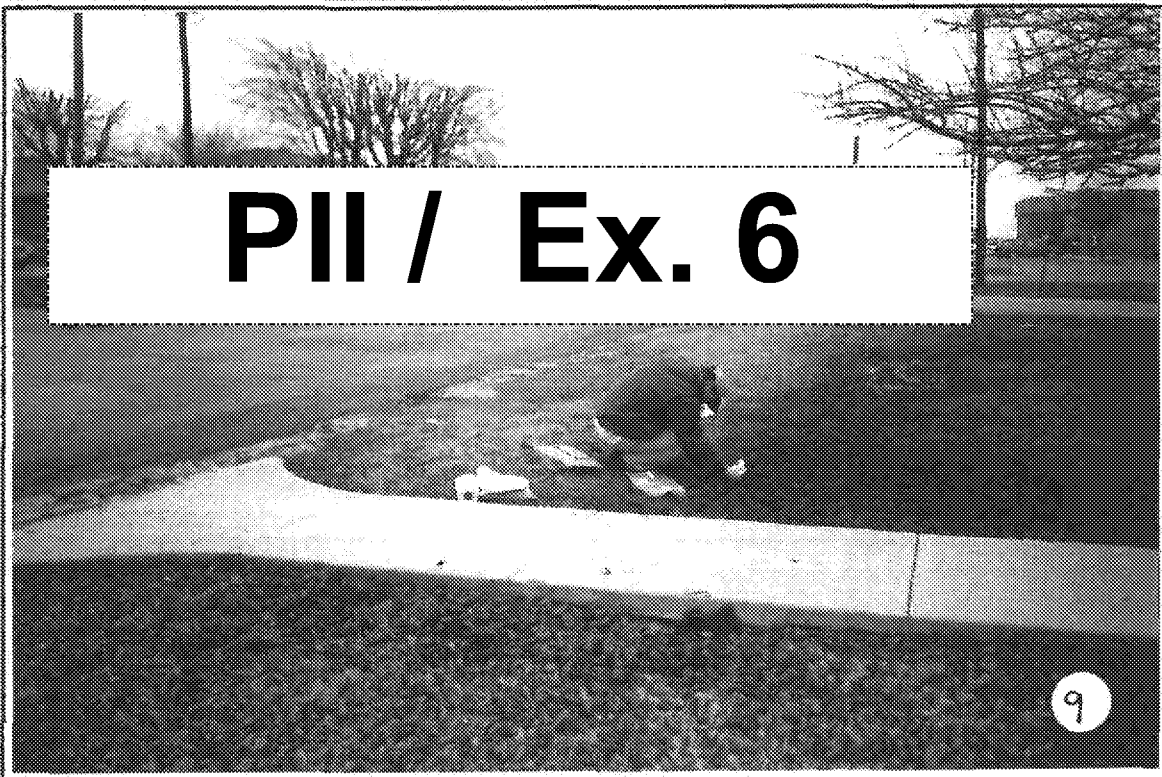


Photo #9 - (15:15 pm) A soil sample SO-08 was collected along the bar ditch on the east side of Poplar Street south of the high school at a depth 0"-6" deep as shown above. Photo taken facing north. Note students departing school.

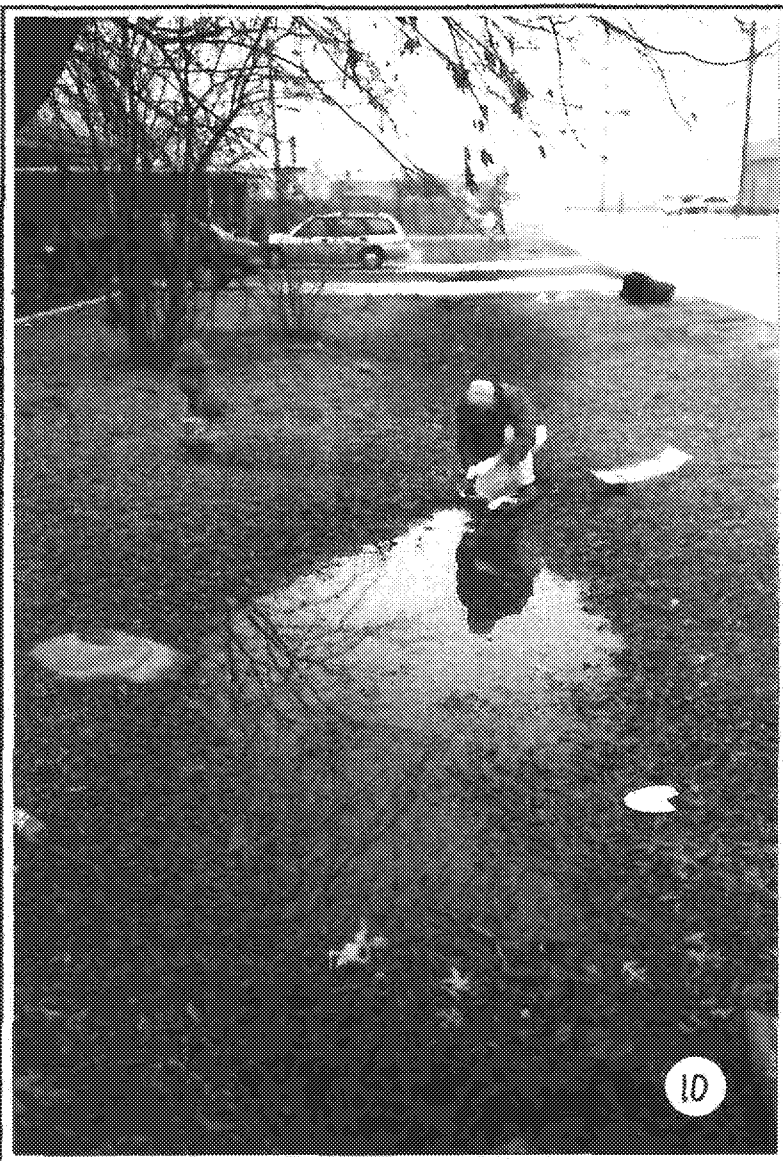


Photo #10 - (15:30 pm) A soil sample SO-09 and a duplicate SO-10 were collected along the bar ditch on the west side of Poplar Street south of the high school at a depth 0"-6" deep as shown at the left. Photo taken facing north.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Region No. 4

Frank J. Doyle Transforme
Site Visit: 12-14 Jan. 9.
Site Photos: J. D. Thomas



Photo #11 - (16:10 am) A soil sample SO-11 was collected in the northeast corner of the nearest residential yard located at Personal Address / Ex. 6 at a depth 0"-6" deep as shown above. Photo taken facing north.



Photo #12 - (16:30 pm) A soil sample SO-16 was collected along the east fenceline of the adjacent residential yard locate at Personal Address / Ex. 6 at a depth 0"-6" deep as shown above. Photo taken facing north.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Region No. 4

Frank J. Doyle Transformer Site
305 E. Cottonwood Street, Leonard, TX
TXD980865109
Site Visit: 12-14 January, 1998
Site Photographer: J. D. Thompson



Photo #13 - (9:05 am) A soil sample SO-13 was collected along the south fenceline west of the south gate at a depth 6"-12" deep as shown above. Photo taken facing northeast.

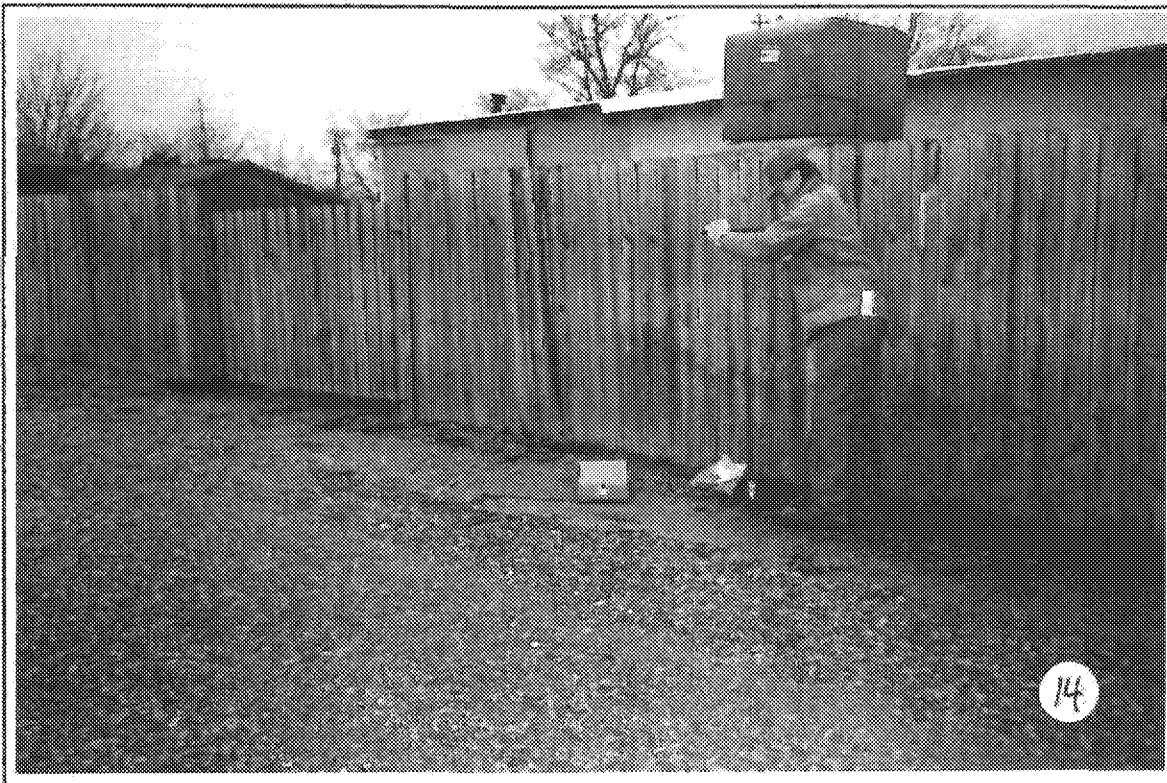


Photo #14 - (9:15 am) A soil sample SO-14 and a duplicate SO-15 were collected along the south fenceline east of the south gate at a depth 6"-12" deep as shown above. Photo taken facing northwest.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Region No. 4

Frank J. Doyle Transformer Site
305 E. Cottonwood Street, Leonard, TX
TXD980865109

Site Visit: 12-14 January, 1998

Site Photographer: J. D. Thompson



Photo #15 - (10:00 am) A 5-part composite soil sample SO-04 was collected from a grassy area north of the high school at a depth 0"-3" deep as shown above. Photo taken facing west.

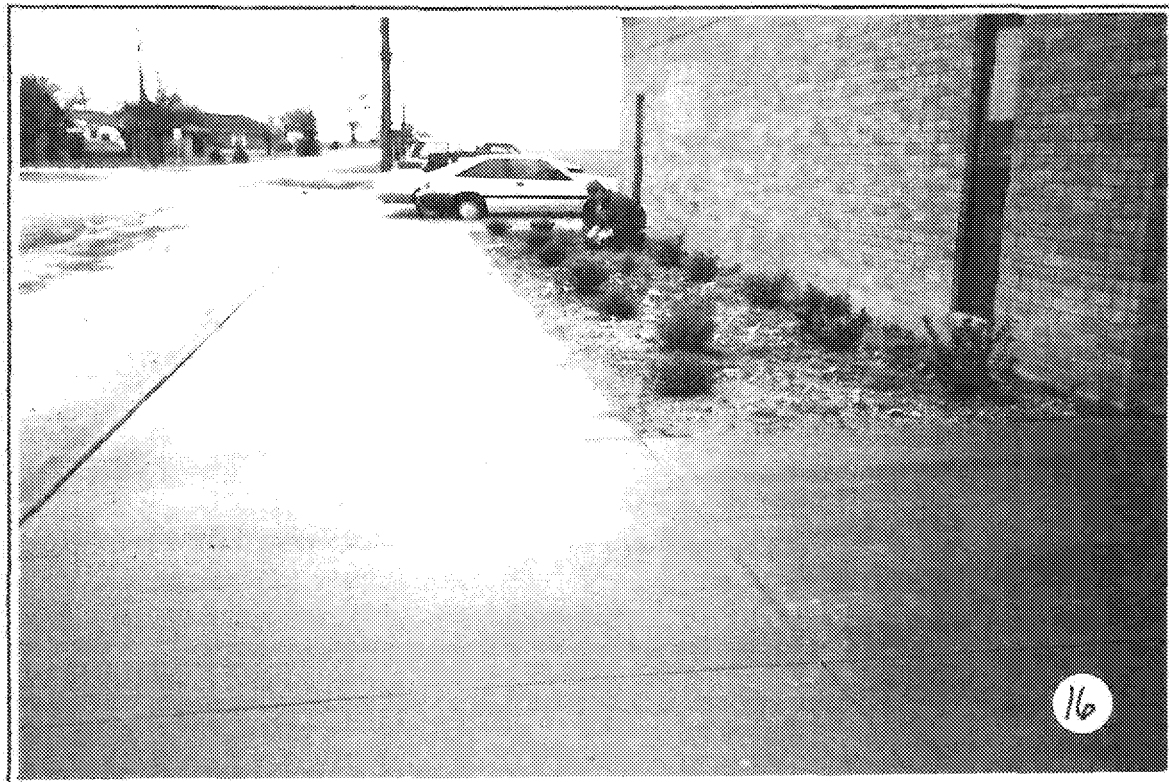


Photo #16 - (10:15 am) A 5-part composite soil sample SO-05 was collected from a shrub area west of the high school at a depth 0"-3" deep as shown above. Photo taken facing north.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Region No. 4

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TXD980865109

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Site Photographer: J. D. Thompson

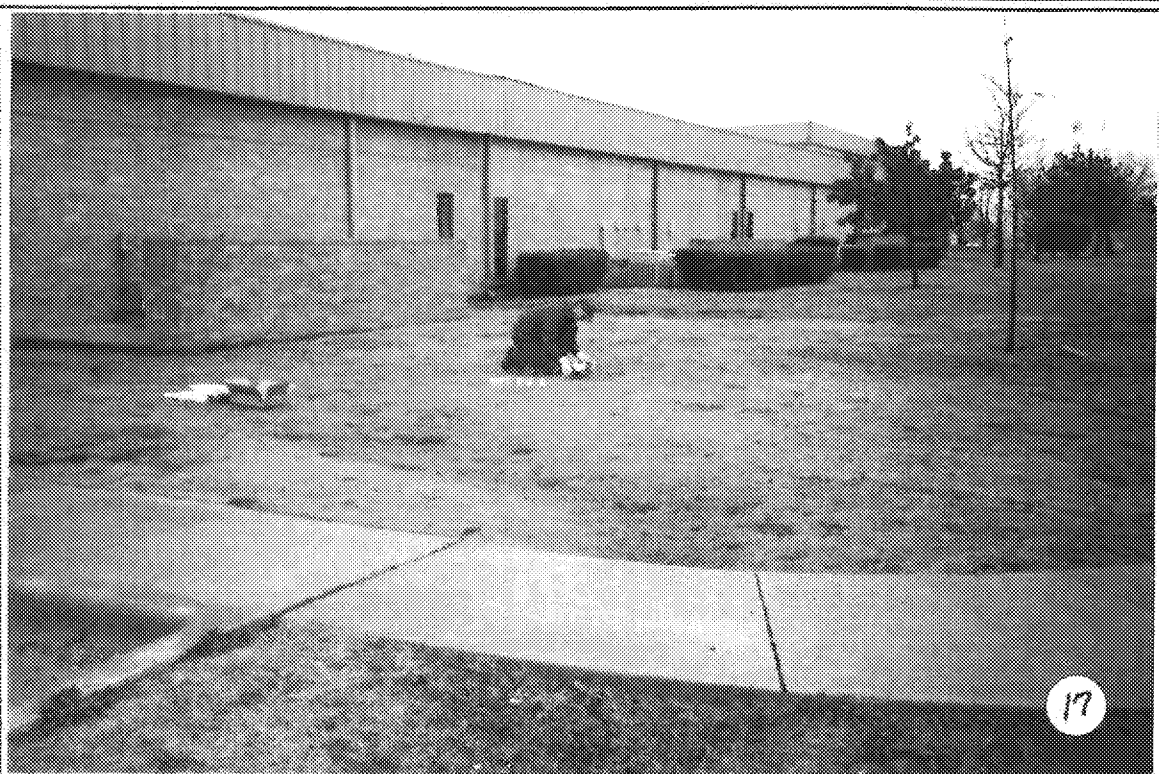


Photo #17 - (10:25 am) A 5-part composite soil sample SO-06 was collected from a grassy area south of the high school at a depth 0"-3" deep as shown above. Photo taken facing east.

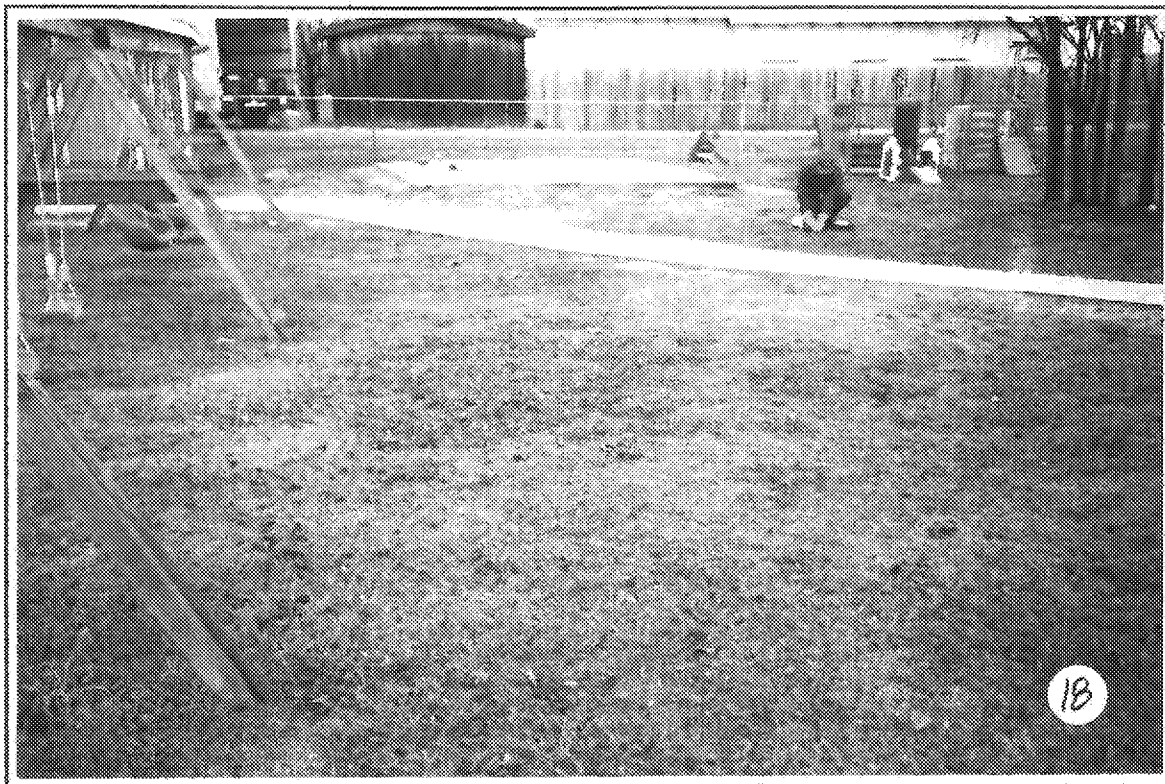


Photo #18 - (10:50 am) A 5-part composite soil sample SO-12 was collected from the backyard of the day care center near the site at a depth 0"-3" deep as shown above. Photo taken facing north toward the site.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
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Frank J. Doyle Transformer Site
305 E. Cottonwood Street, Leonard, TX
TXD980865109
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Photo #19 - (11:30 am) A soil sample SO-17 was collected from the transformer off-load area located in the north central portion of the site at a depth 6"-12" deep as shown above. Photo taken facing north.

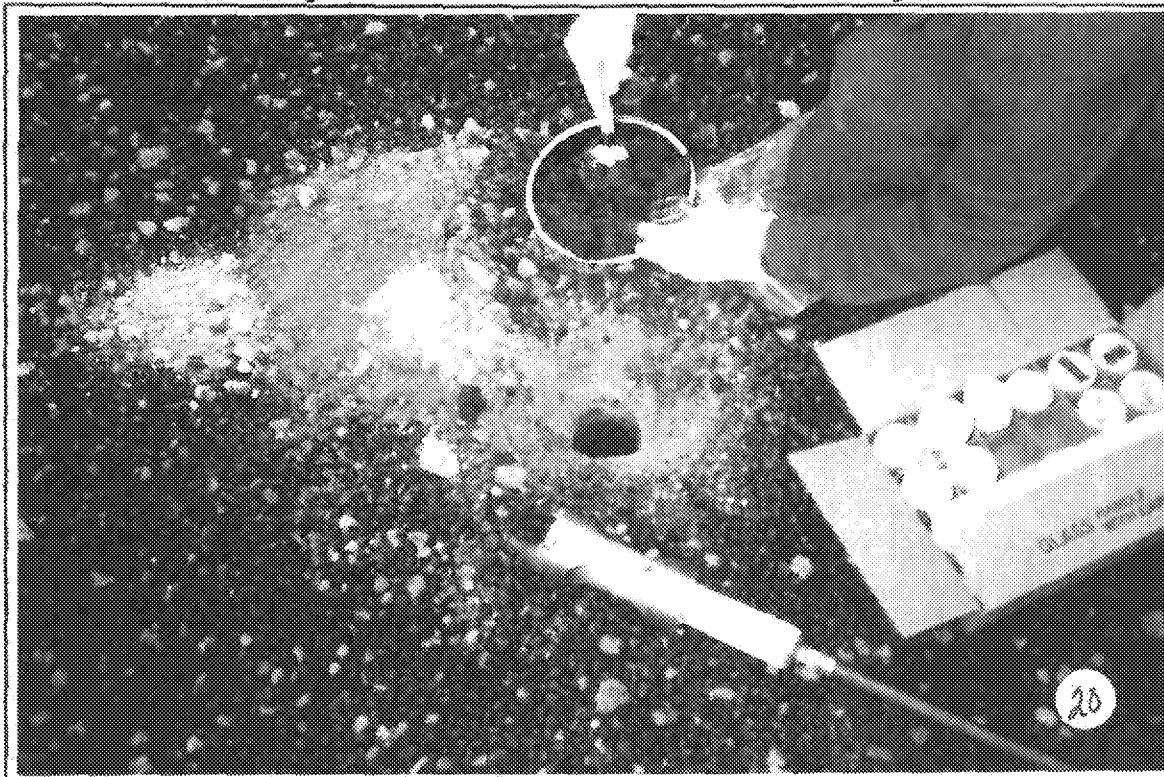


Photo #20 - (11:32 am) A close-up view of sample location SO-17 shows the dark stained soils below the rock and sand road base material in the off-load area.

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Frank J. Doyle Transformer Site

TXD980865109

Site Visit: 12-14 January, 1998

Site Photographer: J. D. Thompson



Photo #21 - (11:45 am) A soil sample SO-18 was collected along the west fenceline adjacent to the container storage area in the southwest portion of the site at a depth 6"-12" deep as shown at the left. Photo taken facing north.

Photo #22 - (12:00 pm) A soil sample SO-19 was collected along the fence-line adjacent to the transformer storage area in the southeast portion of the site at a depth 6"-12" deep as shown below. Photo taken facing south.





Photo #23 - Overview photo of the Frank J. Doyle Transformer Site entrance along Poplar Street shown above. Photo taken facing west.



Photo #24 - Overview photo of the transformer off-load area located in the north central portion of the site. Note the 1.5 to 3.0 KVA transformers stored along the fenceline waiting for processing.

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TXD980865109

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Site Photographer: J. D. Thompson



Photo #25 - According to the facility manager, transformers ranged from 1.5 to 500 KVA and were tested and drained before received from the supplier. A typical delivery consisted of 30-50 transformers as shown above.



Photo #26 - Larger transformers were placed by forklift and stored in the southeast corner of the site east of the south gate as shown above. Photo taken facing east.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Region No. 4

Frank J. Doyle Transformer Site
305 E. Cottonwood Street, Leonard, TX
TXD980865109

Site Visit: 12-14 January, 1998

Site Photographer: J. D. Thompson



Photo #27 - Residual transformer oil is pumped from the transformer casing to 55 gallon drums and the copper/aluminum cores removed to drip drain as shown above.



Photo #28 - The accumulated transformer oil is pumped from the drip pan to 55 gallon drums and the copper/aluminum cores removed from their casings.

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Site Photographer: J. D. Thompson

Frank J. Doyle Transformer Site
TXD980865109

Site Visit: 12-14 January, 1998
Site Photographer: J. D. Thompson

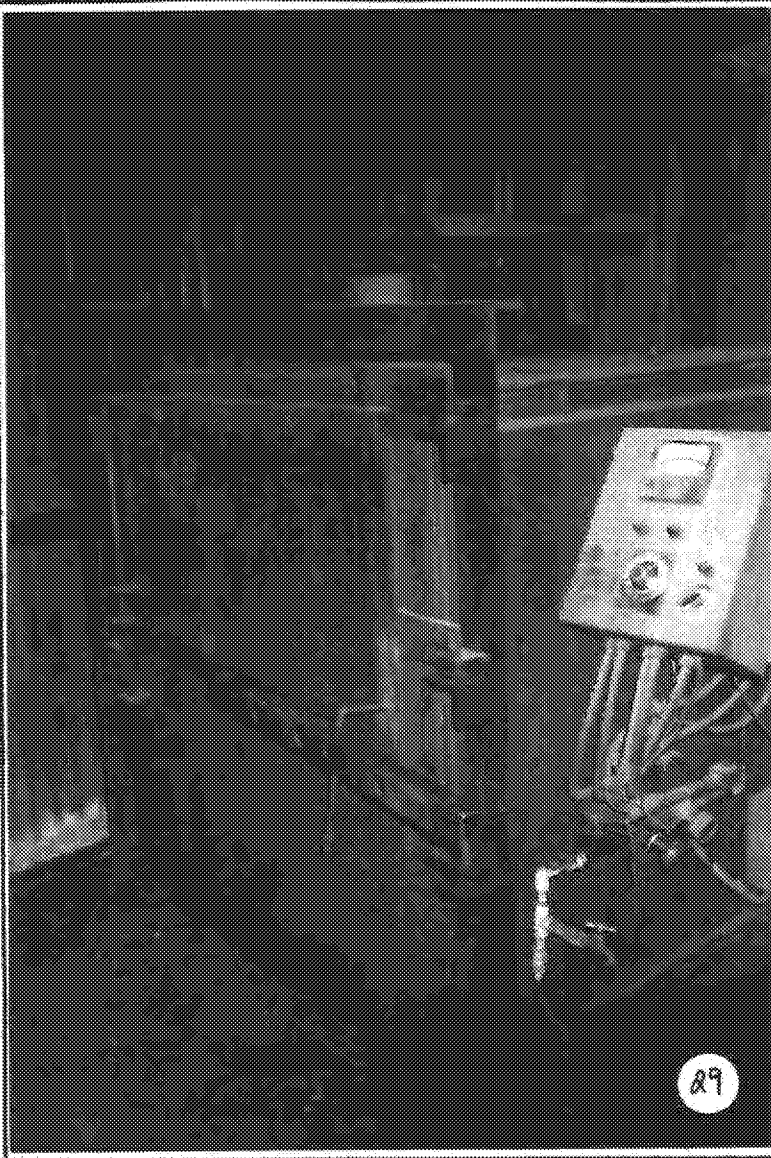


Photo #29 - The removed cores are baked in a heat oven as shown at the left to remove residual oil, varnish and paper from the core.

Photo #30 - The baked cores are stripped of copper/aluminum and placed in bins for recycling as shown below.



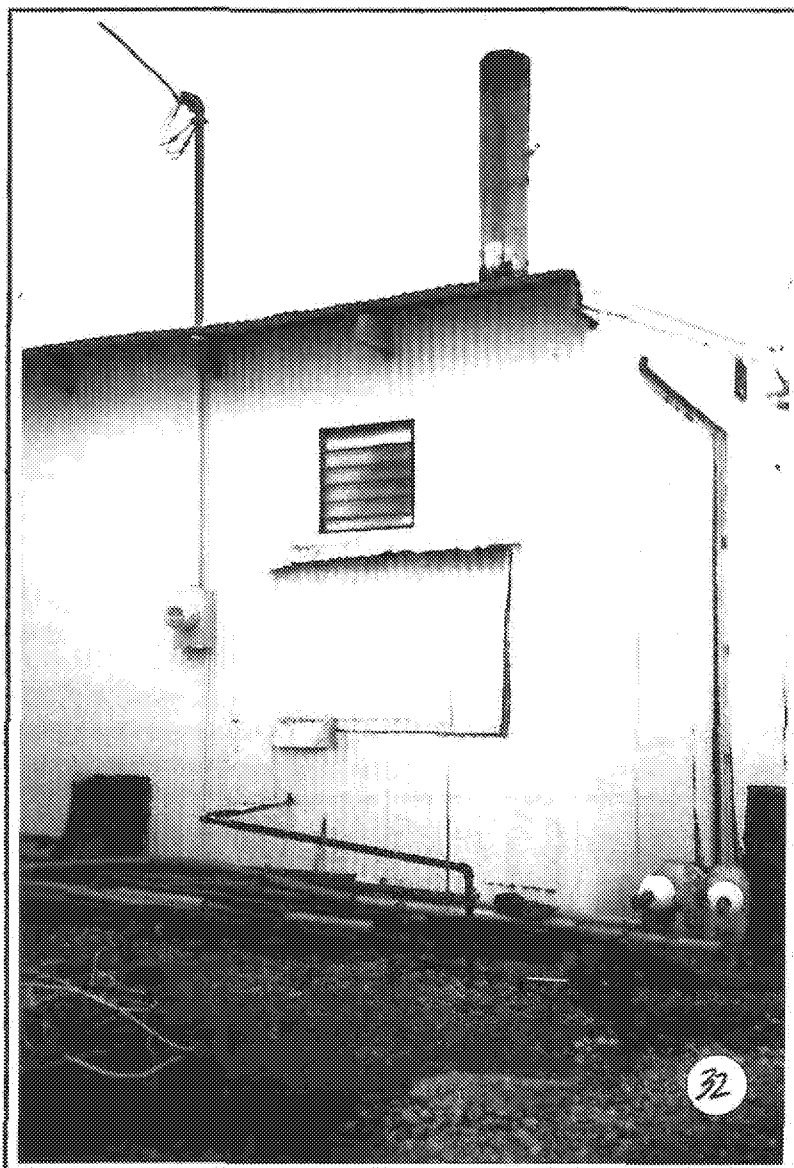


Photo #31 - Used transformer oil is stored in a concrete bermed container storage area in three tanks and 55-gallon drums as shown above. The oil is picked up by an oil recycling service periodically. Photo taken facing south.

Photo #32 - Photo of the stack from the heat oven and vent located in the southeast corner of the shop. Photo taken facing north.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Region No. 4

Frank J. Doyle Transformer
Site Visit: 12-14 Jan, 98
Site Photos: J. D. Thompson



Photo #33 - Overview photo of the area south of the site showing the drainage ditch where soil samples were collected. Note the area is primarily residential. Photo taken from on-site facing south.

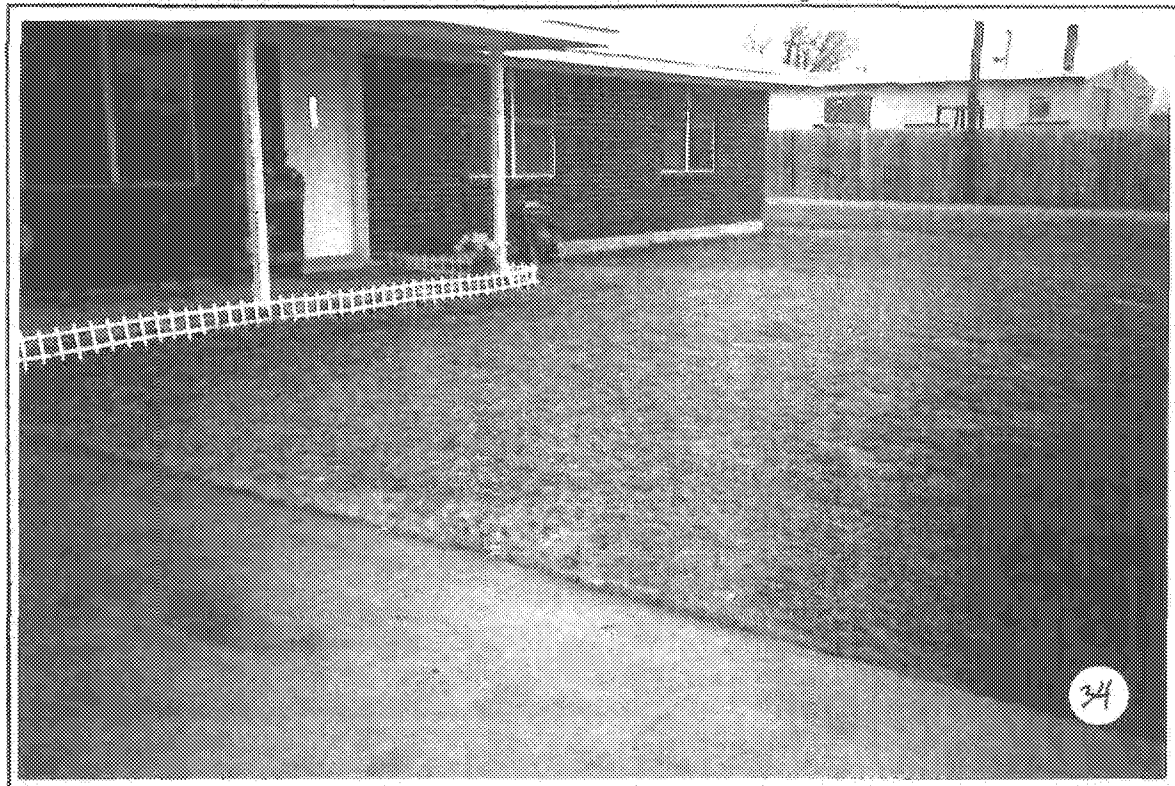


Photo #34 - Overview photo of the nearest residence to the site located approximately 40' from the south fenceline. Photo taken facing northwest.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
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305 E. Cottonwood Street, Leonard, TX
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Site Visit: 12-14 January, 1998

Site Photographer: J. D. Thompson



Photo #35 - Overview photo of the adjacent residence west of the site. Photo taken facing southeast along Cottonwood Street.



Photo #36 - Overview photo of backyard of the day care center located south of the site. Photo taken from on-site facing southwest.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
Region No. 4

Frank J. Doyle Transformer Site
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TXD980865109

Site Visit: 12-14 January, 1998

Site Photographer: J. D. Thompson

APPENDIX B

Field Log Book

Field Log Book for SSI Frank J. Doyle Transformer Site

TXD Screening Site Inspector

12:30 pm - Day 01 - Arrived at City Hall and met Gary Haggis, R4 Field Investigator to conduct site reconnaissance.

12:40 pm - Day 01 - Conducted safety brief for reconnaissance.
Field Team Members: TTR Phone No.

- | | |
|-------------------------|-----------------------------------|
| 1. R4 James P. Thompson | Field Investigator (817) 462-6450 |
| 2. R5 Gary Haggis | Field Investigator (903) 535-5168 |
| 3. C/b Abbi Power | Field Investigator (512) 239-2533 |
| 4. C/o Ray Newby | Field Investigator (512) 239-4132 |

Off Site Reconnaissance - Frank J. Doyle - Newby
Drinking Water Wells

Monday - Day 01

01/12/98 13:00 pm - Met Charles Cooper, Public Works Director, City of Seaward, at City Hall. Went to Pump Station No. 1 located at the intersection of

Wells / Ex. 9

Well enclosed in a pump house. Hose from well head can be used to collect sample. Requested hose be connected to pump the well for 15 minute tomorrow. No problem sample will anticipated.

13:15 - Went to Pump Station No. 2 well located along

Wells / Ex. 9

City Hall. Again well in a pump house. Plastic 3/4 pipe from well head can be used for sample collection point. Both wells can be sampled prior to chlorination.

James P. Thompson 1/12/98

1/12/98 - Day 01 (continued)

On-Site Reconnaissance

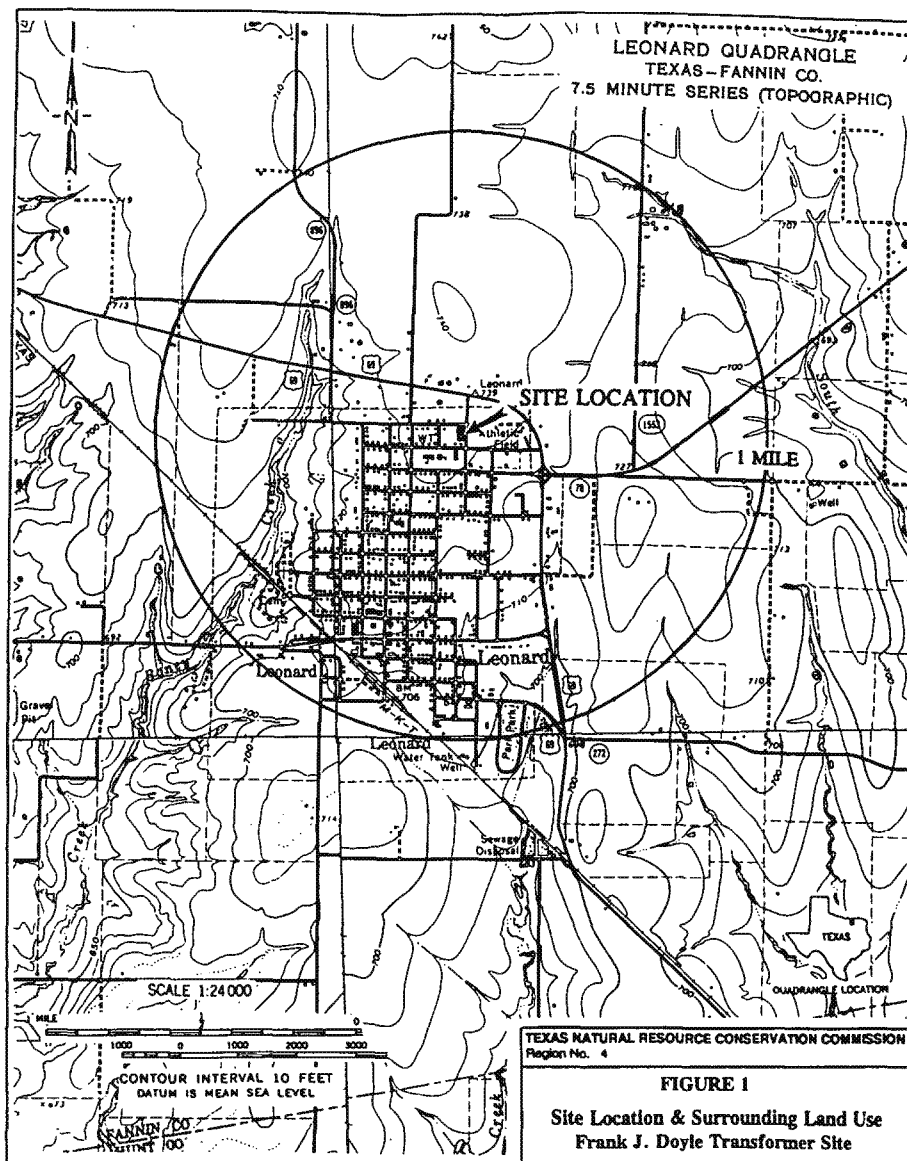
13:30 - Arrived at the F.J. Doyle Transformer Site and contacted Frankie Doyle and his son Gary Doyle. Introduced team member and stated purpose of the inspection. Conducted interview with Mr. Frankie and Gary Doyle:

- facility was used as a house barn prior to Mr. Frankie Doyle buying salvage operations late 1975 to early 1976.
- Former transformer supplies were Public Service of Oklahoma, Texas Power & Light
- only supplier now is SWELCO.
- all transformers are received already drained and only residuals are collected. All transformers are tested prior to receipt from the suppliers.
- sizes range from 1/2 KVA to 500 KVA
average size is 25-50 KVA
- approximately 100 transformers were noted on-site stored out side and around perimeter fence. Gate locked.

Operational Procedures:

1. Transformer received in N. off-load area and stored along fence prior to processing.
2. Transformer lifted by fork lift to inside shop.
3. Oil drained by hand/powered pump to collection drums.
4. Copper / aluminum core removed and placed on derrick tray to drip dry. Collected oil poured to collection drum (satellite storage containers), usually 55-gal drums.
5. Metal base/casing removed and copper core placed in oven and baked. Smoke goes from wood stove.
6. Baked core collected in bin for recycling.

James D. Jones 1/12/98



5

Site Location Map

Adjacent land use within
1-mile radius of site
→ mostly residential/agricultural

Weather:
Day of } Temperature: 54°F
Clouds: partly
Winds: L&V-SK
1/12/98
JOE KOTB

1/12/98 - Day 01 (continued)

INSTRUMENT CALIBRATION CHECKS:

OVA - Organic Vapor Analyzer - [Day 02 - Tuesday]
 Thermo Environmental Instruments Inc
 Model 580B OVM - Smart Portable

Self Calibrator to ambient air: start time 8:15 AM
 end time 8:30 AM

Instrument Calibrate slide 0.0 ppm.
 (See weather conditions page 14)
 for Day 02

Instrument Calibrator: 1/12/98 JDP

pH/Temperature Meters: Oyster WD-35615 Series

pH Buffer Solution of pH = 4.0 Reading: 4.02
 pH Buffer Solution of pH = 10.0 Reading: 9.98

Conductivity Meters: Jenette Chemical Co.
 MultiRange Conductivity Meter - Model DA Series
 Serial No. CZ 3640

Conductivity checked Distilled/Deionized Water
 Reading = 2.0 microhm/cm @ Temp 20.5°C

JDP for 1/12/98

SITE RECONNAISSANCE CHECKLIST

- I. General
 - ☒ 1. Name and title of site contact.
 - ☒ 2. Telephone number.
 - ☒ 3. Site address.
 - ☒ 4. Mailing address (if different).
 - ☒ 5. Name of owner and/or operator.
 - ☒ 6. Mailing address.
- II. Site History
 - ☒ 1. How long has current owner/operator been at site?
 - ☒ 2. What were previous uses of site? Who were previous owners?
 - ☒ 3. Size of site (acres).
 - ☒ 4. Is any other property used that is not contiguous with site?
 - ☒ 5. Permits (RCRA, TDH, etc.)
 - ☒ 6. Any past spills or other environmental or accident problems.
 - ☒ 7. What were previous waste management practices?
- III. Current Operations
 - ☒ 1. What is currently being done at facility?
 - ☒ 2. What are waste management practices?
 - ☒ 3. What are hazardous chemical management practices?
 - ☒ 4. List major hazardous chemicals/constituents present and past.
 - ☒ 5. Discuss sources (e.g., tanks, impoundments, containers, etc.).
 - ☒ 6. Number of employees - current, peak.
- IV. Source Characteristics
 - ☒ 1. Identify type of wastes and quantities disposed of at site.
 - ☒ a. Identify source of information.
 - ☒ b. Photograph.
 - ☒ c. Dimension (quantity, volume, area) of waste locations.
 - ☒ d. Containment controls (clay cap, clay liner, vegetative cover, etc.)
 - ☒ e. Existing data.
 - ☒ f. Condition/integrity of storage/disposal units.
- V. Groundwater Pathway
 - ☒ 1. Distance from source to nearest well. Identify name and address of well owner, if possible - and estimate well usage (number of people served, irrigation, supplemental, etc.).
 - ☒ 2. Verify wells within range of site. Indicate depth to water for each well and number of people served. Identify as many owners and addresses as practically feasible.
 - a. 0 - 0.25 mile
 - b. 0.25 - 0.50 mile
 - c. 0.50 - 1.00 mile
 - d. 1.00 - 2.00 mile
 - e. 2.00 - 3.00 mile
 - f. 3.00 - 4.00 mile
 - ☒ 3. Aquifer nearest wells are screened in, and water quality.

*Site Reconnaissance Checklist for
Off-Site and On-Site Recon*

*1/12/98
J. D. [Signature]*

VI. Surface Water Pathway

1. Identify the TNRCC Basin and Stream Segment where the site is located.
2. Describe surface water quality including:
 - a. average discharge,
 - b. total basin drainage area,
 - c. TNRCC surface water quality monitoring stations.
3. Are there surface water bodies within 2 miles of site? Provide sketch of surface water runoff and flow patterns for 15 stream-miles downstream.
4. Identify intakes along surface water route within 15 stream-miles downstream.
5. What is water use at each intake.
6. Identify fisheries along the 15 stream-mile downstream pathway.
7. Identify sensitive environments along the 15 stream-mile downstream pathway (see attached list).
8. Identify downstream recreational uses.
9. Estimate approximate flow rates for each water body within the 15 stream-mile target distance (i.e., <10 cfs, 10-100 cfs, 100-1,000 cfs, 1,000- 10,000 cfs, etc.).
10. Estimate length of each stream segment.
11. Identify the annual rainfall and net rainfall at the site.
12. Is site in flood plain (10 year, 100 year, 500 year)?
13. Estimate upgradient drainage area limits (watershed).
14. Draw a sketch of drainage from site to nearest surface water including any other contributing tributaries.
15. Identify recreational uses downstream (15 miles).

VII. Soil Exposure Pathway

1. Describe status of site access, fencing, gates, locks, condition of security controls.
2. Describe adjacent land use.
3. Describe off-site runoff patterns.
4. Describe number of people with residence, school, or day care on-site or within 200 yds.
5. Locate nearest school or day care.
6. Number of workers on-site (include maximum number to cover work on-site).
7. Identify sensitive environments, (see list end of checklist).
8. Describe any off-site runoff pattern existing at the site.

VIII. Air Pathway

1. Estimate number of people within 4 miles (city or county records).
 - a. 0 - 0.25 mile
 - b. 0.25 - 0.50 mile
 - c. 0.50 - 1.00 mile
 - d. 1.00 - 2.00 mile
 - e. 2.00 - 3.00 mile
 - f. 3.00 - 4.00 mile
2. Shortest distance from source to occupied building.
3. Identify known releases to air.

James DeJas 1/12/98

4. Identify reports of adverse health effects.
5. Identify existence of sensitive environments within 4 miles (see end of checklist for list).

Miscellaneous Inquiries

1. Are any additional aerial photographs depicting site history available?
2. Meteorological data.
3. Nearest recreational area? Hospital?
4. Local water supply sources?

Site Sketches to Include

1. Date(s) of visit.
2. Well locations (including nearest to site).
3. Storage areas (past and present).
4. UST and above ground storage tanks.
5. Waste Areas.
6. Buildings.
7. Access roads.
8. Areas of ponded water, or depressions in surface.
9. Drainage direction.
10. Photograph locations and directions.
11. Vegetation and significant landscaped features.
12. Any irregular appearance for soil, vegetation, tanks, etc. such as may result from spill, backfill operation, recent dirt moving work, etc.

Off Site Reconnaissance: (continued)

1/12/82 - Day 01 - Monday
 2:30 pm - Met Gary Tucker, Superintendent of the Second Independent School District (LISD) at the office located on Poplar Street. Requested and obtained permission to sample High School grassy areas and the LISD Day Care Center backyard. He provided Debbie Garrit, as the Day Care Center Operator. Party home = 7:45 am to 4:00 pm.
 LISD office phone no. = (263) 587-2318.

3:00 pm - Met George Astor and Ann Higgins, manager and clerk for the Arledge Ridge Water Supply Corporation, located at the intersection of Hwy 78 and FM 1553, Bailey TX. Obtained well log information for Well #2 located

Well / Ex. 9

Well / Ex. 9

maintained by the privately-owned water supply corporation. The president of the corp is Mr. John Modest. Coordinated to meet the well operator, Brad Madison @ 10:00 am. next day. Jno D. for 1/12/82

Off Site Reconnaissance (Continued)

Verified the Arledge Ridge well is located in the Woodbine aquifer and according to Mr. Graton the well pumping capacity is 125 gpm. the well is blanked with water from the Well No. 1 located at the same place. Stated the well would be used to determine background levels in the aquifer of concern, and he would get results.

Well No. 2 { Daily Developed: 01/83, installed 4/29/83
 Depth: 1663'
 Ground Level: 1485-1537 and 1543-1548'
 Last Pump Test: 4/19 and 4/20/83. @ 125 gpm
 Pump Depth: 773'
 Water Level: 638' on 4/20/83.

Surrounding Land Use Near Site: (See sketch page 3)

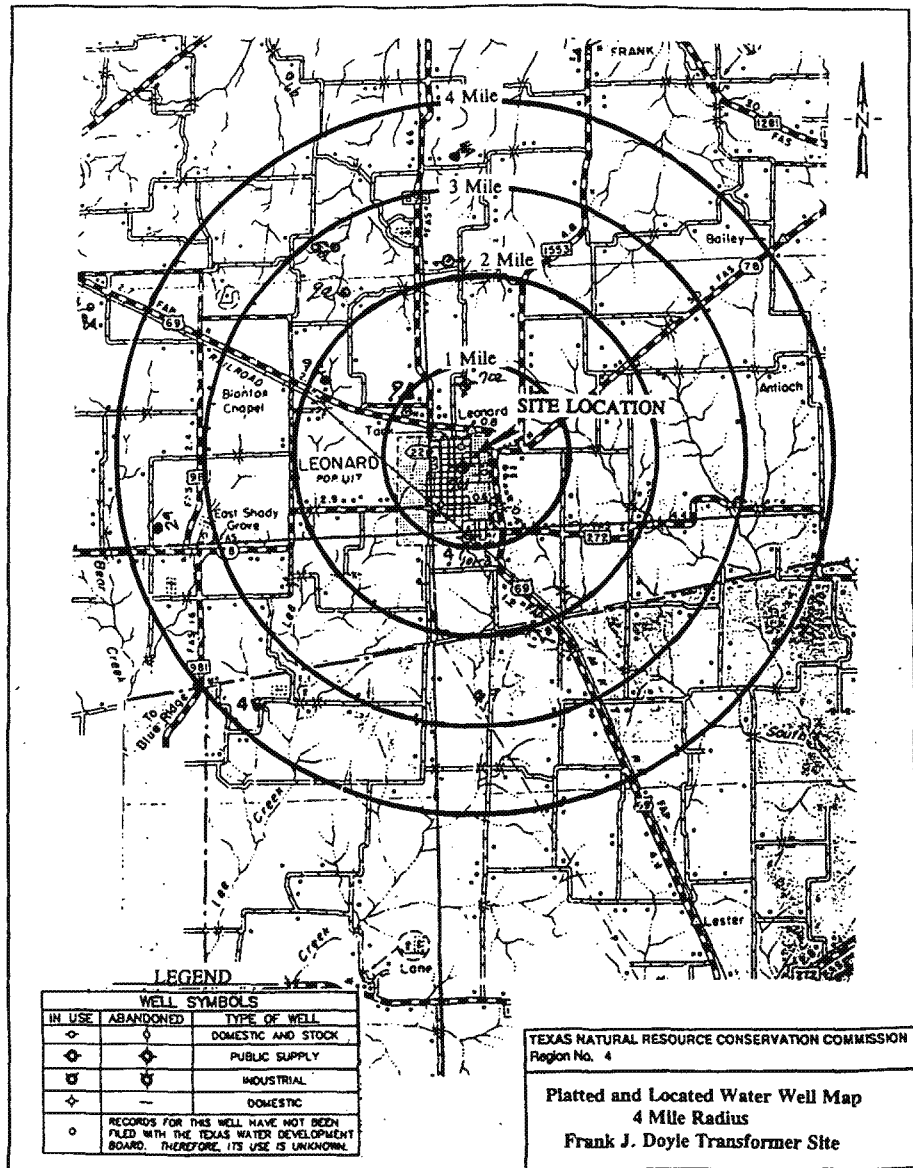
Adjacent to Site (within 200' perimeter)

{ north - residential area
 east - Howard High School
 south - Residential area & Day Care Center
 west - Residential area (owner's home).

Within 1-mile of site: (See page 3)

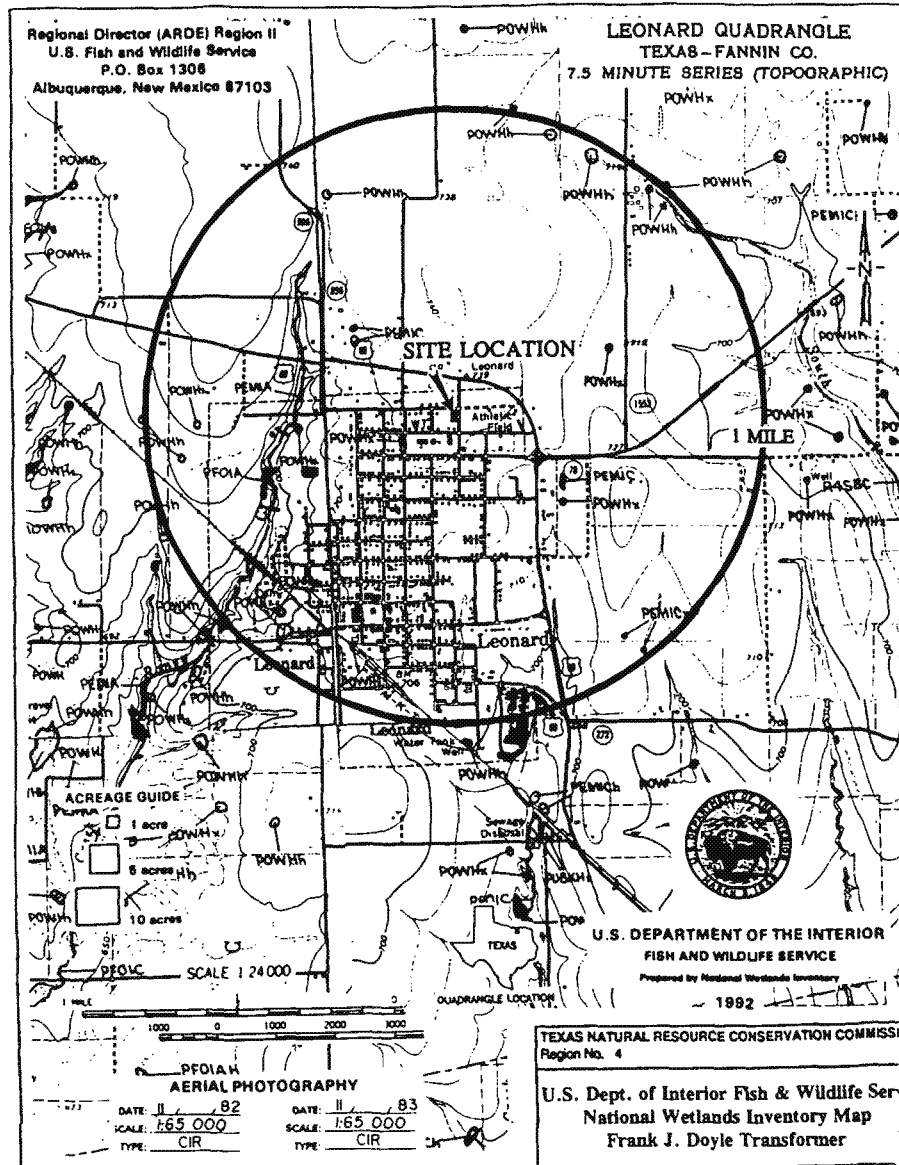
{ north - residential area and open agricultural fields
 State Hwy 69
 east - High School, open agricultural fields and SH 69. 1/2 of students have allergy S of site.
 south - residential area, remainder of city
 west - residential areas

James D. Jones 11/14/88



*Wells located within 4-mile radius
of site.*

James D. Jan 1/13/18



C-5

Wetland Map - Areas Within 1-mile of site.

- no identifiable wetland area within 1/4 mile of site

James D. for 1/13/18

1/13/92 - Day 02 - Off Site Municipal Wells and
Tuesday Off Site Soil Samples

8:00 AM - Arrived at City Hall, Leovard, TX
Met Charles Cooper and proceeded to Pump
Station No. 2 at

Well / Ex. 9

8:10 AM - Conducted Safety Brief. Special topics
included physical hazards near wells, slip trip
and fall. Protection equipment included gloves
boots. J.D. Thompson conducted safety brief.

8:15 AM - Calibrated Instruments (see page 4)
Calibrated OVA to ambient air condition
at Pump Station No. 1.

8:35 AM - Started well online tests for pH, Temp
and conductivity. Completed site well survey.

10:05 AM - Met Brad Anderson of Adage Ridge Water Spp.

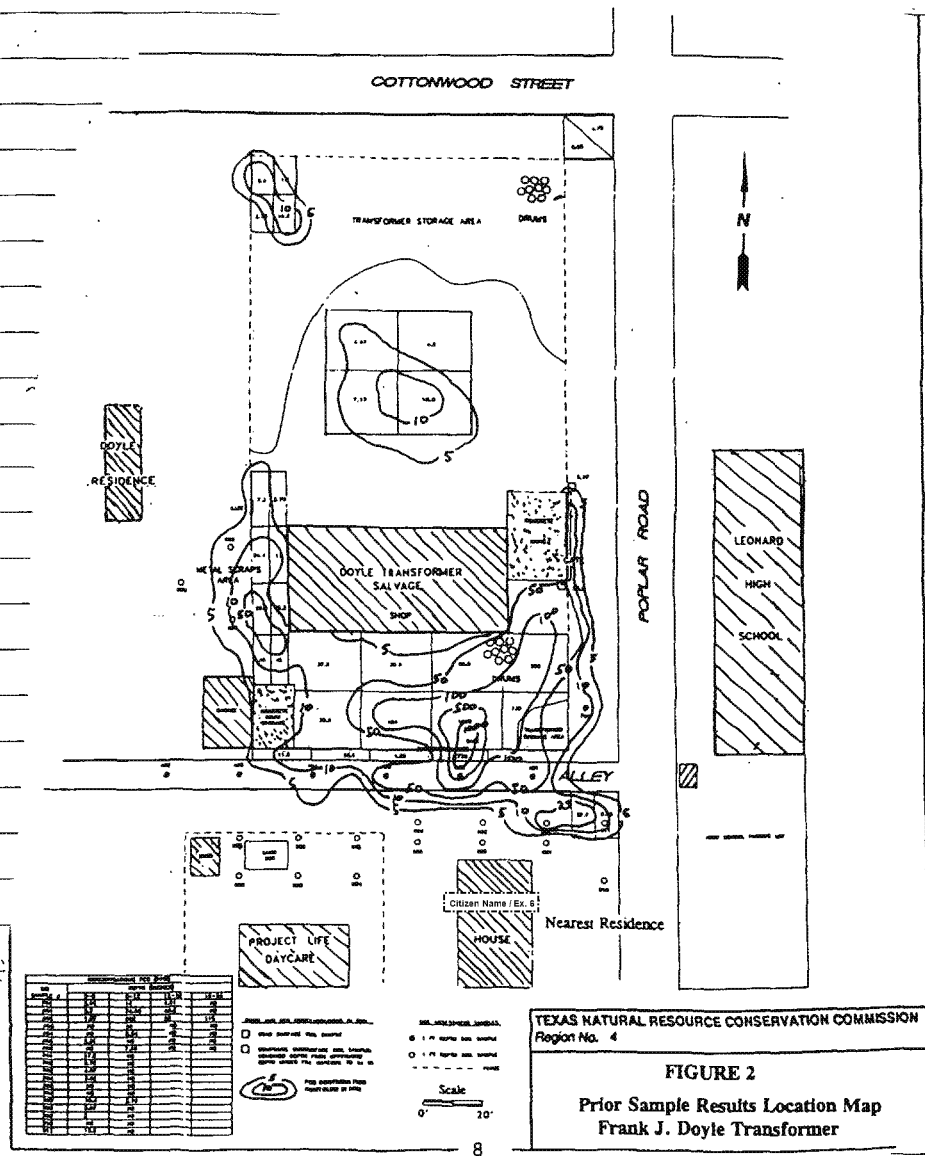
10:20 AM - Completed well water samples.
(see pages 17-20) Collected FB-03
during collection of GW-01 by pouring DI
water to VDA vials. No OVA readings.

1:15 PM - Located background soil sample locations
for collection of SO-1, SO-2 and SO-3. (see
pages 26-28 for locations and sampling data).

2:45 PM - Began off-site grab soil sampling
along drainage ditches and at nearby
residential yard SO-7, SO-8, SO-9/10, SO-11, and
SO-16. (see pages 32-35 and page 41 for locations).

16:30 PM - Completed Day 02 soil samples. Prepared
samples for shipping.

Jerry D. Jones 1/13/92



*Waste Characteristics and Locations
Frank J. Doyle Transformer Site
from Prior Sample by EPA*

Jim D. for 1/12/18

Table 3. Proposed Samples to be Collected

Sample Matrix	Sample ID	Sample Location	Rationale
Groundwater Samples	GW-01	City of Leonard Pump Station #1 (State Well No. 18-39-701) well located at the intersection of Wells / Ex. 9	Assess potential groundwater contamination from a municipal drinking water well located nearest to the site.
	GW-02	Duplicate groundwater sample from the same location as GW-01.	Quality Assurance/Quality Control (QA/QC).
	GW-03	City of Leonard Pump Station #2 (State Well No. 18-39-702) well located Wells / Ex. 9	Determine the extent of the groundwater contamination north of the site.
	GW-04	Arlidge Ridge Water Supply Corp. privately-owned drinking water well located Wells / Ex. 9	Establish upgradient background well water values for attribution of contaminants to site sources.
Soil Samples	SO-01	*Unaffected soil sample collected upgradient/upwind from site sources.	Obtain background sample for attribution of site contaminants.
	SO-02	Unaffected soil sample collected upgradient/upwind from site sources.	Obtain background sample for attribution of site contaminants.
	SO-03	Unaffected soil sample collected upgradient/upwind from site sources.	Obtain background sample for attribution of site contaminants.
	SO-04	5-part composite soil sample 0"-6" deep from the grassy area located north of Leonard High School.	Assess soil contamination adjacent to the high school that may have migrated from site sources.
	SO-05	5-part composite soil sample 0"-6" deep from the grassy area located west of Leonard High School.	Assess soil contamination adjacent to the high school that may have migrated from site sources.
	SO-06	5-part composite soil sample 0"-8" deep from the grassy area located south of Leonard High School.	Assess soil contamination adjacent to the high school that may have migrated from site sources.
	SO-07	Grab soil sample from the drainage ditch located along Hackberry Street east of Poplar Street.	Assess soil contamination that may have migrated along a drainage pathway from site sources.
	SO-08	Grab soil sample from the east drainage ditch located along Poplar Street south of Hackberry Street.	Assess soil contamination that may have migrated along a drainage pathway from site sources.
	SO-09	Grab soil sample from the east drainage ditch located along Poplar Street south of Hackberry Street.	Assess soil contamination that may have migrated along a drainage pathway from site sources.
	SO-10	Duplicate soil sample from the same location as SO-09.	Quality Assurance/Quality Control (QA/QC).
	SO-11	Grab soil sample from a low spot in the NE corner of the nearest residential yard adjacent to the site.	Assess soil contamination that may have migrated along a drainage pathway from site sources.
	SO-12	5-part composite soil sample 0"-6" deep from the backyard of a former day care center adjacent to the site.	Assess soil contamination that may have migrated along a drainage pathway from site sources.

Sampling Location for F. J. Doyle
Transfer Site

James D. Jones 1/12/98

Table 3, continued

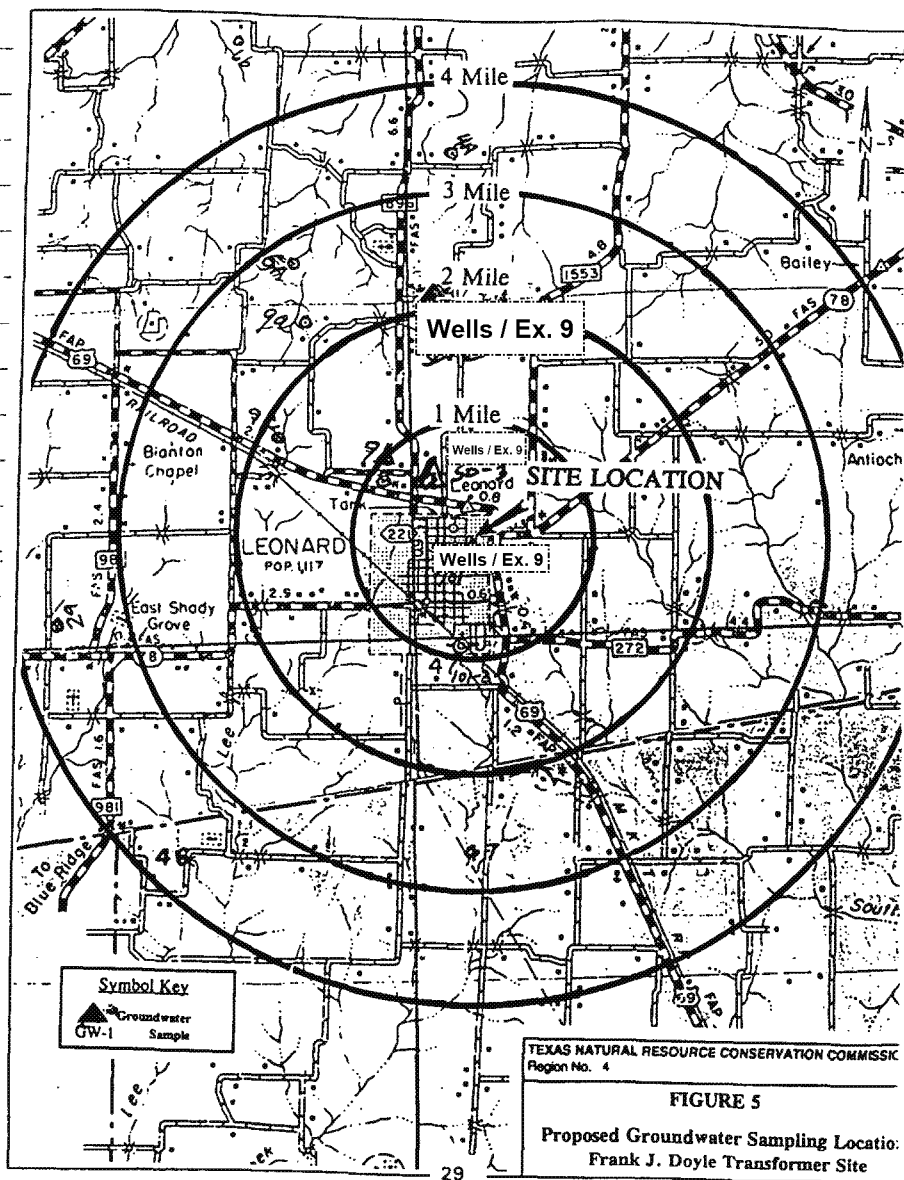
Sample Matrix	Sample ID	Sample Location	Rationale
Soil Samples (continued) <i>grab</i> <i>grab</i> <i>"</i> <i>grab</i> <i>grab</i> <i>grab</i>	SO-13	Grab soil sample collected from the public alleyway located south of the site's perimeter fence.	Assess soil contamination that may have migrated from the container storage area.
	SO-14	Grab soil sample collected from the public alleyway located south of the site's perimeter fence.	Assess soil contamination that may have migrated from the transformer storage area.
	SO-15	Duplicate soil sample from the same location as SO-14.	Quality Assurance/Quality Control (QA/QC)
	SO-16	Grab soil sample collected from a low area along the east fence line of an adjacent residential yard.	Assess soil contamination that may have migrated to a nearby residential yard.
	SO-17	Grab soil sample collected from the transformer off-load area located north of the shop.	Assess source contamination that may have originated from spilled transformer oils.
	SO-18	Grab soil sample collected from a low area north of the concrete pad container storage area.	Assess source contamination that may have originated from leaking containers or splashout/spills from transfer operations.
QA/QC	SO-19	Grab soil sample collected from a low area west of the transformer storage area in the SE corner of the site.	Assess source contamination that may have originated from leaking transformers.
	RI-01	Rinsate sample from non-dedicated stainless steel soil sampling tubes decontaminated before initial use.	Quality Assurance/Quality Control (QA/QC) to assess decontamination effectiveness.
	RI-02	Rinsate sample from non-dedicated stainless steel soil sampling tubes decontaminated after last sample.	Quality Assurance/Quality Control (QA/QC) to assess decontamination effectiveness.
	FB-1	Field blank collected at same time as RI-01	Quality Assurance/Quality Control (QA/QC).
	FB-2	Field blank collected at same time as RI-02	Quality Assurance/Quality Control (QA/QC).
	FB-3	Field blank for ground water matrix.	Quality Assurance/Quality Control (QA/QC).

*Sampling Matrix for F. J. Doyle
Transformer Site
(Continued)*

Day 02 - Tuesday (continued)

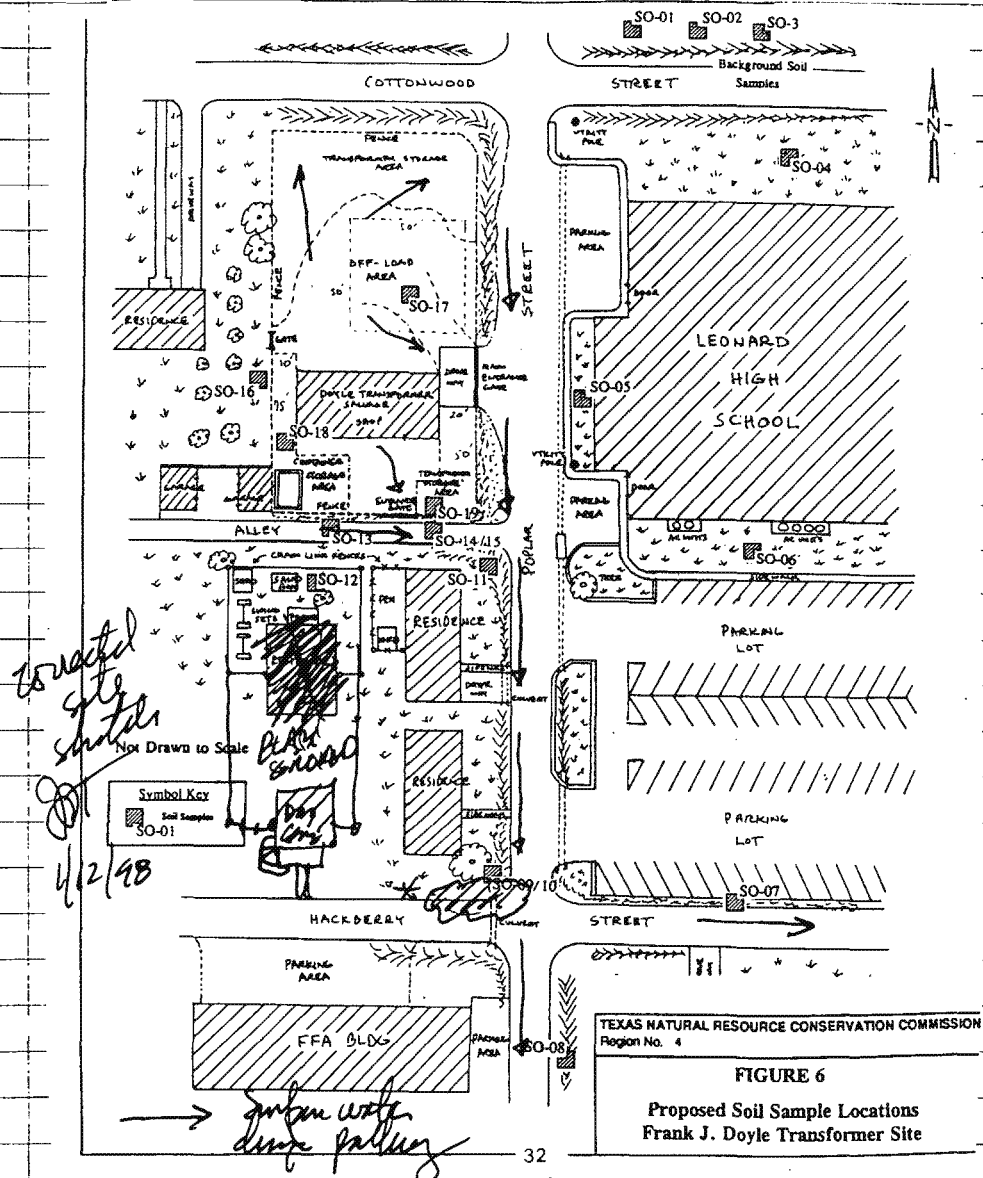
WX
conditions { *temperature: 28°F - 35°F*
clouds: overcast / Drizzling rain / Foggy
Winds: 5-20 kph from North
Pooled water in low spots
Cold day

James D. [Signature] 11/12/98



Groundwater Sample Locations
for F.J. Doyle Transformer Site

Joe D. Jan 1/12/98



Soil Sample Locations for F. J. Doyle Transformer Site

* Surface water dump parking flows east and south collecting at the culvert along Hackberry St and Poplar.
J. D. [Signature] 1/12/98

Groundwater and Soil Sample Tables

GW-01 - City of Leonard Pump Station No. 1

STATION LOCATION: GW-01

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR93	6-164701
VOA	FFR93	6-164702
EXT	FFR93	6-164703
TOT	MFHM15	6-164704
CYN	MFHM15	6-164705

City of Leonard Pump Station No. 1 -

Wells / Ex. 9

Wells / Ex. 9

well head and pump installed in shade.

8:45 AM - Started purge from well head.

8:48 AM - started volume sampling for pH, temp & conductivity.

8:48 AM - completed volume sample for pH, temp & conductivity.

Samples: Ray Newby

Sample time = 8:50 AM

1 st Volume	Conductivity	Temperature	pH	Time
from Well	—	24.0	8.48	8:35
2 nd volume	930 mc/cm	25.0	8.29	8:40
3 rd volume	1800 mc/cm	25.7	8.30	8:45
4 th volume	1800 mc/cm	25.1	8.29	8:47
5 th volume	1800 mc/cm	24.8	8.31	8:48

* GPS Ready: RD1-1315A (unmounted)

Photo # 1 @ 8:50 from West, photo taken by: JDP

Sample Preservation: Sodium Hydroxide in Grind pH ≥ 12.0
Nitric Acid in Total Metals pH ≤ 2.0

James D. Jones 11/13/02

GW-02 - City of Toward Pump Station No. 1
Duplicate Sample for QA/QC

STATION LOCATION: GW-02

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR94	6-164706
VOA	FFR94	6-164707
EXT	FFR94	6-164708
TOT	MFHM16	6-164709
CYN	MFHM16	6-164710

Duplicate Sample of GW-01

{ (same start/end times for purging) }

Sample time = 8:55 Am

Sample: [same as GW-01]

	Conductivity	Temperature	pH	Time
1 st volume	{ (same as for GW-01) }			
2 nd volume				
3 rd volume				
4 th volume				
5 th volume				

GPS Reading: [same as for GW-01]

Sample Preservation: Sodium hydroxide in canister pH ≥ 12.0
 Nitric acid in total metals pH ≤ 2.0

James D. Jones 1/13/98

GW-03 - City of Leonard Pump Station No. 2

STATION LOCATION: GW-03

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR95	6-164711
VOA	FFR95	6-164712
EXT	FFR95	6-164713
TOT	MFHM17	6-164714
CYN	MFHM17	6-164715

City of Leonard Pump Station No. 2 - Located <

Wells / Ex. 9

Wells / Ex. 9

9:00 AM - Started purge from well head.

9:20 AM - Started volume sample for pH, temp & conductivity.

9:27 AM - Completed volume sample for pH, temp & conductivity.

Sample: Very Dirty

Sample Time = 9:30 AM

	Conductivity	Temperature	pH	Time
1 st Volume	2,000 $\mu\text{m}/\text{cm}$	24.3°C	8.25	9:26
2 nd Volume	2,000 $\mu\text{m}/\text{cm}$	24.0°C	8.27	9:23
3 rd Volume	2,100 $\mu\text{m}/\text{cm}$	24.1°C	8.23	9:25
4 th Volume	2,100 $\mu\text{m}/\text{cm}$	23.9°C	8.25	9:27
5 th Volume	—	—	—	—

GPS Read: K01-1315B uncorrected.

photo # 2 @ 9:30 AM from South. photo taken by: J.D. Jones

Sample Preservation: Sodium Hydroxide in Cyanide pH \geq 12.0
Nitric Acid in total Metals pH \leq 2.0.

J.D. Jones 1/13/98

GW-04 Arledge Ridge Water Supply Corp.

STATION LOCATION: GW-04STATION LOCATION: GW-04, CONT.

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR90	6-1647
VOA	FFR90	6-1647
VOA	FFR90	6-1647
VOA	FFR90	6-1647
VOA	FFR90	6-1647
VOA	FFR90	6-1647

	SAMPLE ID#	C.O.C. TAG#
EXT	FFR90	6-1647
EXT	FFR90	6-1647
EXT	FFR90	6-1647
TOT	MFHM12	6-1647
TOT	MFHM12	6-1647
CYN	MFHM12	6-1647
CYN	MFHM12	6-1647

Arledge Ridge Water Supply Corp. - Wells / Ex. 9
Arledge Ridge well water site in Woodbine Aquifer.

10:05 AM - Started purge from well head.

10:15 AM - Started online sample for pH, temp & conductivity.

10:23 AM - Completed online sample for pH, temp & conductivity.

samples: Ray Newby

Sample Time = 10:25 AM

	Conductivity	Temperature	pH	Time
1 st Volume	1,500 $\mu\text{S}/\text{cm}$	13.6°C	8.46	10:15 AM
2 nd Volume	1,850 $\mu\text{S}/\text{cm}$	15.1°C	8.50	10:18 AM
3 rd Volume	1,350 $\mu\text{S}/\text{cm}$	15.0°C	8.53	10:20 AM
4 th Volume	1,350 $\mu\text{S}/\text{cm}$	14.6°C	8.57	10:23 AM
5 th Volume				

GPS check: RD - 1316A unrequested.

Photo # 3 @ 10:10 AM facing NW. photo taken by: JDP

Photo # 4 @ 10:30 AM facing N. photo taken by: JDP

James DeJure 1/12/18

ER-01 - Equipment Residue - Initial Decon

STATION LOCATION: ER-01

	SAMPLE ID#	C.O.C. TAG#
VOA	<u>FFR74</u>	<u>6-164730</u>
VOA	<u>FFR74</u>	<u>6-164731</u>
EXT	<u>FFR74</u>	<u>6-164732</u>
TOT	<u>MFHL96</u>	<u>6-164733</u>
CYN	<u>MFHL96</u>	<u>6-164734</u>

Decontamination Equipment Residue Sample - Sample Tubes
and shovel. Initial equipment decon.

Loc. Extractor Tubes (4) - Residue sample collected
after wash with detergent, rinse water IPA 10%.
Dilute acid solution and ultra DI water poured over
tubes and shovel. Residue collected in stainless
steel bowl and poured into sample jars.

Location: Allowing apparently Sampler: Gary Hargrave
100' SW of site.

Sample Time = 8:41 AM

OVA Ready: start in sample 8:15
end in sample 8:41
OVA max ready 0.0 ppm

Sample Preservation: Sodium hydroxide for cyanides pH ≥ 12.0
Nitric acid in Total Metals pH ≤ 2.0

James D. Jones 1/14/98

ER-02 - Equipment Runsite - Final Decon.

STATION LOCATION: ER-02

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR69	6-164735
VOA	FFR69	6-164736
EXT	FFR69	6-164737
TOT	MFHL25	6-164738
CYN	MFHL25	6-164739

Decontamination Equipment Runsite Sample - Sample tubes and shroud. Final equipment decon.
 Two extraction tubes (6) and shroud - Runsite sample collected after wash with detergent, rinse water, IPA, 10% nitric acid solution and ultra DI water poured over tubes and shroud. Runsite collected in a stainless steel bowl and poured into sample jars.

Location: SW of staging area sample: by hand
 in alleyway south of site.

12:50pm
Sample Time: 1:00pm

OVA Reading: start air sample (see page 21) 80T 1/14/98
 end air sample (see page 21)
 OVA max reading (see page 21) ppm

Sample Preservation: Sodium hydroxide in canister, pH ≥ 12.0 .
 Nitric acid in total metals, pH ≤ 2.0 .

James D. Jones 1/14/98

FB-01 - Field Blank for FR-01 - Initial Ascon

STATION LOCATION: FB-01

SAMPLE ID#

C.O.C. TAG#

VOA FFR96

6-164740

VOA FFR96

6-164741

Field Blank, collected after equipment decontamination while waste sample being collected by going Ultra DI water into VBA tubes. Field blanks placed in same cooler as FR-01 volatile sample.

Gay Hazelwood
 sampler: Gay Hazelwood

OVA Readings:

start in sample (see page 21)

end in sample (see page 21)

DVA Mass Ready (see page 21) ppm

Sample Time: 9:00 AM

8:50 AM

James D. Jones 4/14/13

FB-02 - Field Blank for FR-02 - Field Area

STATION LOCATION: FB-02

	<u>SAMPLE ID#</u>	<u>C.O.C. TAG#</u>
VOA	<u>FFR97</u>	<u>6-164742</u>
VOA	<u>FFR97</u>	<u>6-164743</u>

Field blank - collected after equipment decontamination while final minute sample bag collected by pouring ultra DI water in VOA tubes. Field blank placed in the same cooler as FR-02 volatile sample.

Sampler: Guy Hazelwood

DVA Readings:

Sample Time: 13:15 pm

Start air sample (see page 2)

End air sample (see page 2)

DVA max ready (see page 2) ppm

James D. Jones 1/14/98

FB-03 - Field Blank for Ground Water Samples (GW-02)

STATION LOCATION: FB-03

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR98	6-1647
VOA	FFR98	6-1647

Field Blank - collected while GW-02 sample
being collected from City of Toronto Pump Station
NO. 1. Sample collected by pouring ultra DI water
in VOA tubes. Field blank placed in the same
cooler as GW-02 volatile samples.

OVA Readings:

Sampler: Ray Nulty

start air cycle (see page 4)

end air cycle (see page 4)

OVA max reading (see page 4) ppm

Sample Time: 9:02 AM

James O'Connell 1/13/98

SO-01 - Background Soil Sample - off site.

STATION LOCATION: SO-01

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR91	6-164745
VOA	FFR91	6-164746
EXT	FFR91	6-164747
EXT	FFR91	6-164748
TOT	MFHM13	6-164749
CYN	MFHM13	6-164750

Background Soil Samples - off site locations

Location: 50' north of FNU 4725 in a wooded area approx. 2 miles from site
(see location on page 15 map)

Sample Depth: 0"-6" deep

Soil Type: Clay sand
dark gray
rootlets, wood bit

Sample: Poly Noddy

Sample Time: 1:30 pm

Decom Ht: 014-10/07/97 date

OVA Meter Readings: start on scale 1:25 pm

and in scale 1:35 pm

OVA max reading 0.5 ppm

Photo # 5 c 1:30 pm facing South, photo taken by: J. D. [signature]

GPS link, PDI-1319A unconnected.

James D. [signature] 1/13/98

SO-02 Background Soil Sample - off siteSTATION LOCATION: SO-02

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR92	6-164751
VOA	FFR92	6-164752
EXT	FFR92	6-164753
EXT	FFR92	6-164754
TOT	MFHM14	6-164755
CYN	MFHM14	6-164756

Background Soil Sample - off Site Location

Location: 100' west of EM4720 in a wooded area
 approximately 2 miles from site.
 (See location on page 15 map)

Sample Depth: 0' - 6" deep

Soil type: Sandy silty clay sampler: Ray Norkey
 dark gray
 rootlets, moist. Sample Time: 1:45 pm

Acron Hit: 014-10/22/97 late

OVA Meter Readings: start in sample (see page 26)
 and air sample (see page 26)
 OVA max reading (see page 26) ppm

photo # 6 c 1:45 pm from West. photo taken by: JLB

GPS Reading: ROI-1319B uncorrected.

James DeJ - 1/13/98

(SO-03) Background Soil Sample - off Site.STATION LOCATION: SO-03

	<u>SAMPLE ID#</u>	<u>C.O.C. TAG#</u>
VOA	<u>FFR87</u>	<u>6-164757</u>
VOA	<u>FFR87</u>	<u>6-164758</u>
EXT	<u>FFR87</u>	<u>6-164759</u>
EXT	<u>FFR87</u>	<u>6-164760</u>
TOT	<u>MFHMO9</u>	<u>6-164761</u>
CYN	<u>MFHMO9</u>	<u>6-164762</u>

Background Soil Sample - off Site Location.

Location: Approx 500' west FM 4120 and 1000' north
 being left in vacant field near baseball park
 and track field. (see location on page 15 map).

Sample Depth: 0" - 6" deep

Soil type: Dark gray to black soils: Very dark
 organic clays
 root structure
 grass cover.

Sample time = 14:15

Decom. Hist: D15-10/24/99 date

DVA Meter Readings: start on sample 14:10
 end on sample 14:20
 DVA max reading 0.2 ppm

photo #1 c 4120 facing South. photo taken by: J. P. Jones

1605
1605

POI-1322A
 uncorrected.

J. P. Jones 1/13/99

SO-04 N. of Leonard High School - 5 part separate

STATION LOCATION: SO-04

	<u>SAMPLE ID#</u>	<u>C.O.C. TAG#</u>
VOA	<u>FFR88</u>	<u>6-164763</u>
VOA	<u>FFR88</u>	<u>6-164764</u>
EXT	<u>FFR88</u>	<u>6-164765</u>
EXT	<u>FFR88</u>	<u>6-164766</u>
TOT	<u>MFHMI0</u>	<u>6-164767</u>
CYN	<u>MFHMI0</u>	<u>6-164768</u>

Grassy Area N. of Leonard High School - 5 part separate

Location: 5 separate spots along a line parallel to the Rd, 7' from roadway, 50' from dip line, closest to site.

Sample Depth: 0"-3" deep: surface soil just below root stubs. (used stainless steel spoon)

Soil Type: mixed composition of gravel, sand, loam with grass roots. Sampler: Gray Hugelwired

Sample Time: 10:00 AM

Decor Kit: D14 - 10/2/97 late

OVA Meter Ready: start in sample (see page 21)
and in sample (see page 21)
OVA now ready (see page 21) open

photo # 15 = 10:00 AM facing East. photo taken by: J. D. [signature]

GPS Reading: R01-14136 disconnected.

James P. Jones 1/14/08

(SO-05) W. of Leonard High School - 5 post separate

STATION LOCATION: SO-05

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR89	6-164769
VOA	FFR89	6-164770
EXT	FFR89	6-164771
EXT	FFR89	6-164772
TOT	MFHMI I	6-164773
CYN	MFHMI I	6-164774

Grassy Area W. of Leonard High School - 5 post separate

Location: West grassy area of High School
where shrubs planted along Poplar Street.

Sample Depth: 0"-3" - used spoon to collect sample
(distorted stainless steel)

Soil type: Sandy loam
with organic material
mowed, no grass cover
bark chips present, moist soil.

Sample Time = 10:15 AM

Access File: DLE-10/2/97 date

OVA Meter Reading: start in sample (see ppg 21)
end in sample (see ppg 21)
OVA max reading (see ppg 21) ppm

Photo # 16 @ 10:15 AM facing North. photo taken by: J. D. Jones

CPS Reading: ROL-14186g uncorrected.

J. D. Jones 1/14/98

(SD-06) - S. of Leonard High School - 5 foot capsule.

STATION LOCATION: SO-06

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR84	6-164775
VOA	FFR84	6-164776
EXT	FFR84	6-164777
EXT	FFR84	6-164778
TOT	MFHMO6	6-164779
CYN	MFHMO6	6-164780

Grassy Area S. of Leonard High School - 5 foot capsule.

Location: Southern grassy area of High School.
 caps collected 15' apart in line towards the site.

Sample Depth: 0"-3" deep - used spoon to collect sample.
 (dedicated stainless steel)

Soil type: Sandy, fill material, pebbles.
 light tan to brown moist soil

Sample Time = 10:25 AM

Accessed: D14-142/97 date

OVA Meter Ready: start in sample (see page 21)
 end in sample (see page 21)
 OVA max ready: (see page 21)

Photo # 17 @ 10:25 facing East. Photo taken by: J. D. Jones

CAPS Ready: R01-141BC immoveted.

James D. Jones 1/14/98

SO-07 - Drainage Ditch Hackberry St - grab sample

STATION LOCATION: SO-07

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR85	6-164781
VOA	FFR85	6-164782
EXT	FFR85	6-164783
EXT	FFR85	6-164784
TOT	MFHMO7	6-164785
CYN	MFHMO7	6-164786

Drainage Ditch along Hackberry Street - grab sample.

Location: Approximately 100' east along drainage ditch Hackberry Street south of High School.

Sample Depth: 0"-5" deep - used decont. stainless steel spoon to collect sample.

Soil type: silty clay
gray to dark gray
trace sand
saturated water
sampler: Pon Nisk

Sample Time = 3:00pm

Drawn At: D14 - 10/22/97 date

OVA Meter Reading: start air sample 2:50pm
end air sample 3:05pm
OVA max reading 0.0 ppm

Photo # 8 @ 2:55pm - NW photo taken by: J. D. Jones

GPS Reading: R01-1320B uncorrected.

James D. Jones 1/13/18

SO-08 - Drainage Ditch Poplar Street - grab sample

STATION LOCATION: SO-08

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR86	6-164787
VOA	FFR86	6-164788
EXT	FFR86	6-164789
EXT	FFR86	6-164790
TOT	MFHMO8	6-164791
CYN	MFHMO8	6-164792

Drainage Ditch along Poplar Street - grab sample.

Location: Approximately 50' south along drainage ditch
west side Poplar Street. Home Address: Personal Address / Ex. 6

Sample Depth: 0' - 6" deep - used decontaminated stainless
steel spoon to collect sample.

Soil Type: gray silty clay silt: May Newby
grass covered
saturated/water

Sample Time = 3:15 pm

Drain Det: D14-10/02/97 data

OVA Meter Reading: start in sample (see page 32)
and in sample (see page 32)
OVA max reading (see page 32) ppm

Photo # 9 a 315pm fine mesh photo taken by: J. D. Jones

GPS Reading: R01-1320C unmoved.

Jones D. J. 1/13/98

SO-09 - Drainage Ditch W. side Poplar Street - grab

STATION LOCATION: SO-09

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR81	6-164793
VOA	FFR81	6-164794
EXT	FFR81	6-164795
EXT	FFR81	6-164796
TOT	MFHMO3	6-164797
CYN	MFHMO3	6-164798

Drainage Ditch W. side of Poplar Street - grab sample

Location: West drainage ditch along Poplar, NW corner of
of House address:

Personal Address / Ex. 6

Sample Depth: 0"-6" deep - used stainless steel spoon
to collect sample

Soil type: Silty clay gray to dark gray
some organic exhausted water sample: Ray Mearns

Sample Time = 3:30 pm

Drawn by: DIV - 10/22/27

OVA Meter Reading: stuck in sample (see page 32)
and air sample (see page 32)
OVA was ready (see page 32) ppm

Photo # 10 @ 3:30 pm from photo taken by: J. J. Mearns

GPS Reading: 201-1321A unmonitored

James D. Mearns 4/12/18

SD-10 - Duplicate Sample of SD-09

STATION LOCATION: SD-10

	SAMPLE ID#	C.O.C. TAG#
VOA	<u>FFR82</u>	<u>6-162800</u>
VOA	<u>FFR82</u>	<u>6-162801</u>
EXT	<u>FFR82</u>	<u>6-162802</u>
EXT	<u>FFR82</u>	<u>6-162803</u>
TOT	<u>MFHMO4</u>	<u>6-162804</u>
CYN	<u>MFHMO4</u>	<u>6-162805</u>

Duplicate Sample of SD-09

Location:

Same as SD-09

Sample Depth:

Soil type:

soil: Ring Nubby

(Sample time = 3:35 pm)

Recommend: Same as SD-09

OVK Meter Ready: start air sample Same as SD-09

and air sample Same as SD-09

OVK max ready same as SD-09 ppm

James D. J. 11/13/98

SO-11 N/E Corner Nearest Residence

STATION LOCATION: SO-11

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR83	6-162806
VOA	FFR83	6-162807
EXT	FFR83	6-162808
EXT	FFR83	6-162809
TOT	MFHMO5	6-162810
CYN	MFHMO5	6-162811

N/E Corner Nearest Residence - grab sample.

Location: N/E corner of Personal Address / Ex. 6 mi
large debris low spot

Sample Depth: 0"-6" deep - Used dedicated stainless steel spoon to collect sample.

Soil Type: dark gray sample: Ray Nixby
sub clay
same organic matter. Sample Time = 16:10pm

Drawn At: 014-10/02/97 date

OVA Reading: start in sample (see page 32)
and air sample (see page 32)
OVA max reading (see page 32) pps

Photo # 11 @ 16:10pm from North Photo taken by JDF

GPS Reading: REL-14322A unrecorded.

not
4/3/00

James D. Jones 1/13/98

(SP-12) LISC Dry Core Center - Backyard - Composite

STATION LOCATION: SO-12

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR78	6-162812
VOA	FFR78	6-162813
EXT	FFR78	6-162814
EXT	FFR78	6-162815
TOT	MFHMOO	6-162816
CYN	MFHMOO	6-162817

LISC Dry Core Center - Backyard - 5 point composite

Location: Backyard of LISC Dry Core Center
 5 point locations
 Used dedicated SS spoon. 7:30 - 4:00 pm M-F

Sample Depth: 0 - 3" deep
 - Used dedicated stainless steel spoon to collect sample.

Soil type: Sandy fill material
 clay-based, moist soil
 dark brown to light tan
Sample: Gray Hardwood
Sample Time: 10:50 am

Accur. Lit.: D14-10/2/97 date

OVA Meter Readings: start in sample (see page 21)
 end in sample (see page 21)
 OVA meter ready (see page 21) ppm

Photo # 18 @ 10:50 am from NE photo taken by J. [signature]

GPS Reading: R01-1418A measured.

J. [signature] 11/14/98

SO-13 - Alleyway Soil Sample West of Gate - Grab

STATION LOCATION: SO-13

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR79	6-162818
VOA	FFR79	6-162819
EXT	FFR79	6-162820
EXT	FFR79	6-162821
TOT	MFHMO1	6-162822
CYN	MFHMO1	6-162823

Alleyway Soil Sample - West of Gate - Grab Sample

Location: 15' west of S. gate, F.J. Doyle

* Sample Depth: 6" - 12" deep

Transformer Site.
Used core extender tube (prior Decon)

Soil Type: Sandy clay

Sampler: big hand wood

fine sand
dark grey with light
gray mottles

Sample Time = 9:08

Decon Hit: D14 - 10/2/97 date

OVA Readings: start air sample (see page 21)

end air sample (see page 21)

OVA next reading (see page 21) ppm

* top cover of gravel removed before sampling.

Photo #13

@ 9:05 AM from NE photo taken by JH

GPS Reading: R01-14170 uncorrected.

8/1/00

James D. Jr 1/14/03

SD-14 Alleyway Soil Sample East of Gate - Grab

STATION LOCATION: SO-14

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR80	6-162824
VOA	FFR80	6-162825
EXT	FFR80	6-162826
EXT	FFR80	6-162827
TOT	MFHMO2	6-162828
CYN	MFHMO2	6-162829

Alleyway Soil Sample - East of Gate - Grab Sample

Location: 15' east of S. gate, F. J. Doyle
Transformer Ste.

* Sample Depth: 6" - 12" deep - Used core
extractor tube (prior decon)

Soil type: Sandy clay
carbon to gray
some stems. Sample: Gray clay loam

Sample Time = 9:10 am

Decon Hit: 9/14 - 10/2/97 late

OVA Neck's: start in sample (see page 21)

end in sample (see page 21)

OVA max reading (see page 21) ppm

* top cover of ground removed before sample.

Photo # 14 @ 9:15 facing NW. photo taken by J.D. Doyle

GPS Reading: RD1-1417A measured.

SDT
1/14/98

June D. Doyle 1/14/98

(8015) Duplicate Sample of SD-14

STATION LOCATION: SO-15

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR75	6-162830
VOA	FFR75	6-162831
EXT	FFR75	6-162832
EXT	FFR75	6-162833
TOT	MFHL97	6-162834
CYN	MFHL97	6-162835

Duplicate Sample of SD-14

Location: Same as SD-14

Sample Depth:

Soil type:

sampler: Gum Haywood

Sample Time: 9:15 AM

Accur Pit: (Same as SD-14)

OVA Meter Reading: Start air supply (Same as SD-14)
and air supply (Same as SD-14)
OVA max reading (Same as SD-14) ppm

James D. Jones 1/14/98

(SO-16) Frank Doyle Residence - East FaverlineSTATION LOCATION: SO-16

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR76	6-162836
VOA	FFR76	6-162837
EXT	FFR76	6-162838
EXT	FFR76	6-162839
TOT	MFHL98	6-162840
CYN	MFHL98	6-162841

Frank Doyle Residence on East Faverline near gate.

Personal Address / Ex. 6

Location: Next to wooden fence approximately 20' south of gate. Area bare of vegetation.

Sample Depth: 0"-6" deep - Used dedicated stainless steel spoon to collect sample. JOT 1/13/98

Soil Type: ~~sandy~~ clay silty sand. Dark gray to reddish brown in color. Moist soil. JOT 1/12/98

sample: Ray Nixby
[Sample Time = 16:30 PM]

Dean Kot: D14 10/02/97

DVA Nixby - start air sample (see page 32)
end air sample (see page 32)
DVA max ready (see page 32) ppm

[Photo # 12] @ 16:30pm facing North. photo by JOT

GPS Nixby: 201-1322B uncorrected.

Jim Deffen 1/13/98

SO-17 - Transformer off-load area - grab sample

STATION LOCATION: SO-17

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR77	6-162842
VOA	FFR77	6-162843
EXT	FFR77	6-162844
EXT	FFR77	6-162845
TOT	MFHL99	6-162846
CYN	MFHL99	6-162847

Transformer off-load area - North Part of St.

Location: approx 50' west of east fence
approx 75' north of shop building

Sample Depth: 6"-12" - Used core extractor tube
and shovel to break up gravel layer.

Soil type: 0"-6" compacted gravel road base material
6"-12" dark sandy clay
dark stains in soils

Decont'd: D14-10/2/97

Sample: Grabbed
Sample Time = 11:30 AM

OVA Analysis: clust in sample (see page 21)
and in sample (see page 21)
OVA max ready (see page 21) ppm

Photo # 19 = 11:30 AM from North photo taken by [Signature]
Photo # 20 = 11:32 AM close-up of sample location by [Signature]
GPS Mark: R01-1418D unconnected

[Signature] 11/14/98

SD-18 - Crutaxen Storage Area - SW Port of Site

STATION LOCATION: SO-18

	SAMPLE ID#	C.O.C. TAG#
VOA	<u>FFR72</u>	<u>6-162848</u>
VOA	<u>FFR72</u>	<u>6-162849</u>
EXT	<u>FFR72</u>	<u>6-162850</u>
EXT	<u>FFR72</u>	<u>6-162851</u>
TOT	<u>MFHL94</u>	<u>6-162852</u>
CYN	<u>MFHL94</u>	<u>6-162853</u>

Crutaxen Storage Area - SW portion of site.

Location: 45' North of South fence Grab sample
2' end of West fence

Sample Depth: 6"-12" deep - used core extractor
tubes to collect sample. Soil: by Hydramat

Soil type: Dark sandy clay
Dark brown to gray (Sample Time = 11:45 AM)

Drawn Kit: D14 - 10/2/97

OVA Results:
start in sample (see page 21)
end in sample (see page 21)
OVA max. result (see page 21) ppm

Photo # 21 @ 11:45 AM for North, photo taken by JH

GPS Results: R01-141BF uncorrected.

James D. Jones 1/14/98

(SO-19) Transformer Storage Area - SE Corner of siteSTATION LOCATION: SO-19

	SAMPLE ID#	C.O.C. TAG#
VOA	FFR73	6-162854
VOA	FFR73	6-162855
EXT	FFR73	6-162856
EXT	FFR73	6-162857
TOT	MFHL95	6-162858
CYN	MFHL95	6-162859

Transformer Storage Area - SE Corner of site - grab
sample

Location: 6' North of South fence
 20' west of the East fence

Sample Depth: 6"-12" deep - Used core extractor
 tube to collect soil sample.

Soil Type: Dark grey clay
 with some sand. Soils: Gray Hardwood
Sample Time = 12:00pm

Access List: D14-10/2/97 Data

OVA Needs: start our sample (see page 21)
 and in sample (see page 21)
 OVA max needs (see page 21) ppm

(Photo # 22) @ 12:00pm from South. photo taken by J.D.

GPS Needs: R01-14.13E. marked James D. Jones
 4/14/18

1/14/78 - Day 03 - Soil Samples and On-Site Sources

8:00 AM - Arrived at the staging area located along the alleyway south of the site. Set up desk area.

8:10 AM - Conducted Safety Brief. Spent time in field on-site physical hazards. Weather was cold with wet drizzle. Slip trip & fall safety emphasized. J.D. Hopper conducted Safety Brief.

8:15 AM - Calibrated Instruments (see page 21).

Calibrated OVA to ambient air conditions at south staging area. Continued air monitoring for site location (used all day).

(Weather Conditions:

Day 03 } Temperature: 36°F
Clouds: overcast with slight mist
Winds: 2-5K from the north

8:45 AM - Equipment Maintenance. Decanned singly tubes and closed. Collected final waste sample FR-01 and FB-01 (see pages 21 and 23)

9:00 AM - Began off-site soil samples along drainage pathways and adjacent areas. Collected SD-13, SD-14/15, SD-12, SD-4, SD-5 and SD-6 (see pages 28-40, 37, 29-31)

11:30 AM - Began on-site soil samples from 3 identified waste spill areas. Collected SD-17, SD-18 and SD-19 (see pages 42-44).

12:30 PM - Equipment Decontamination. Decanned singly tubes and closed. Collected final waste sample FR-02 and FB-02 (see pages 22 and 24).

Disposal of wash water/flush water (see disposal of IDW)

Done D for 1/14/78

Day 03 - (continued)

1300 pm - Disposal of IDW near site. Piled
waste water and mixed water near SW corner of
site along foundation near telephone pole.

Approximately 1 1/2 gallon waste water + misc.

Collected all glass and trash in plastic
bags and transported off site for disposal at
Harris & family.

18:30 pm - Departed site. Packaged coolers
for transport to Airborne Express Office
located in Plano, TX.

End of Day 03 Activities.Leonard High School:

School principal: Mr. John Kay

(903) 587-3556

PO Box 4000, LISD

Leonard, TX 75452

send sample results to above address:

**L.I.S.D. CHILD CARE CENTER**

DEBBIE GAUNTT P.E.P. DIRECTOR

LEONARD ISD

P.O. DRAWER #

Box 4000

LEONARD, TX.

75452

Phone: 903.587.2840

James D. [Signature] 1/14/88

PLAN ACCEPTANCE FORM

SUMMARY OF ACTIVITIES

1. Initial on- and off-site reconnaissance, designating sample locations, verifying location of target and background drinking water wells.
2. Equipment decontamination, groundwater sampling.
3. Background and target soil sampling.
4. Equipment decontamination, sample packaging/shipping.

ACCEPTANCE

I have read the Health and Safety plan (or been briefed on the hazards) for Screening Site Inspection (SSI) field work to be conducted at the Frank J. Doyle Transformer Site located in Leonard, Texas in Fannin County, and agree to abide by the rules and guidelines contained therein. I acknowledge that I have had a current annual physical within the last 12-month period from the date signed below, and am medically cleared to perform my tasks as outlined.

<u>James D. Thompson</u> Name	<u>[Signature]</u> Signature	<u>1/12/98</u> Date
<u>Gary L. Hazelwood</u> Name	<u>[Signature]</u> Signature	<u>1-12-98</u> Date
<u>Abigail Power</u> Name	<u>[Signature]</u> Signature	<u>01/13/98</u> Date
<u>Ray Newby</u> Name	<u>[Signature]</u> Signature	<u>1/13/98</u> Date
 Name	 Signature	 Date
 Name	 Signature	 Date
 Name	 Signature	 Date

Aug 01 - Monday

SITE SAFETY BRIEFING

Job Number (Site) Frank J. Doyle Transformer Site Number TXD980865109
Date 1/12/98 Start Time 12:40 Completed 12:50
Site Location 305 E. Cottonwood Street, Leonard, Texas
Type of Work (General) Off-site remediation, on-site remediation
antigen well plumes and property owner. Identify sample
locations. Determine on-site hazards.

SAFETY ISSUES

Tasks (this shift) Identify off-site and on-site hazards, issues or
property - owner concerns. Determine safety equipment
requirements.
Protective Clothing/Equipment Level D (modified) for off-site.
Level C (modified) for on-site.
Physical Hazards slip, trip, fall potential from equipment/transformers stored on site.
Overhead crane, on-site storage tanks, 55-gallon drums
Control Methods buddy system, hand signals, evacuation procedures, situation awareness,
identification of hot zones, entry/exit areas.
Chemical Hazards PCB contaminated soils, drained transformer oils, sample preservation
chemicals.
Decontamination Procedures/Tasks not required during remediation.
Evacuation Procedures/Route/Signals meet at designated safety area.
Follow owner to exit site and his instructions.
Evacuation Meeting Area South parking lot Leonard High School
Nearest Phone Mobile phone
Hospital Name/Address Presbyterian Hospital of Greenville, 4215 Joe Ramsey Blvd, Greenville, TX
Special Topics (incidents, actions taken, etc.) Look for on-site hazards.
Note vehicle or pedestrian traffic near site.

ATTENDEES

Print Name

James D. Thompson

Gary L. Hazelwood

Sign Name

James D. Thompson
Gary L. Hazelwood

Meeting conducted by:

J.D. Thompson

Day 02 - Tuesday

SITE SAFETY BRIEFING

Job Number (Site) Frank J. Doyle Transformer Site Number IXD080865109
Date 1/13/98 Start Time 8:40 AM Completed 8:20 AM
Site Location 305 E. Cottonwood Street, Leonard, Texas
Type of Work (General) Safety brief, collect groundwater samples and
collect background / off-site grab soil samples. Package and
ship samples to laboratory.

SAFETY ISSUES

Tasks (this shift) Safety brief, collect 4 groundwater samples public supply
wells, collect background soil samples and 6 soil samples
along drainage pathways from site. Package samples, ship.
Protective Clothing/Equipment modified level C, boots and
gloves.

Physical Hazards slip, trip, fall potential from equipment/transformers stored on site.
Overhead crane, on-site storage tanks, 55-gallon drums
Control Methods buddy system, hand signals, evacuation procedures, situation awareness,
identification of hot zones, entry/exit areas.
Chemical Hazards PCB contaminated soils, drained transformer oils, sample preservation
chemicals.
Decontamination Procedures/Tasks Brush off clothes, discard gloves.
Evacuation Procedures/Route/Signals assemble at van. Use voice
or shout to other team members.
Evacuation Meeting Area South parking lot Leonard High School NOT use van
Nearest Phone Mobile phone
Hospital Name/Address Presbyterian Hospital of Greenville, 4215 Joe Ramsey Blvd, Greenville, TX
Special Topics (incidents, actions taken, etc.) phase of groundwater chemicals
for water samples. Cold weather.

ATTENDEES

Print Name

Sign Name

James D. Thompson
Gary L. Hazelwood
Abigail Fowler
Roy Newby

James D. Thompson
Gary L. Hazelwood
Abigail Fowler
Roy Newby

Meeting conducted by:

J.D. Thompson

Day 03 - Wednesday

SITE SAFETY BRIEFING

Job Number (Site) Frank J. Doyle Transformer Site Number TXD980865109
Date 1/14/98 Start Time 8:15 Completed 8:20
Site Location 305 E. Cottonwood Street, Leonard, Texas
Type of Work (General) Safety brief, collect off- and on-site soil samples, decon non-dedicated sampling equipment, package and ship samples to laboratory.

SAFETY ISSUES

Tasks (this shift) Safety brief, collect 10 grab or composite soil samples, and decon non-dedicated sampling equipment. Seal, package, complete paperwork and ship samples to laboratory.
Protective Clothing/Equipment Washable Level C. Boots and gloves. Use OVA to assess organics at site.

Physical Hazards slip, trip, fall potential from equipment/transformers stored on site. Overhead crane, on-site storage tanks, 55-gallon drums

Control Methods buddy system, hand signals, evacuation procedures, situation awareness, identification of hot zones, entry/exit areas.

Chemical Hazards PCB contaminated soils, drained transformer oils, sample preservation chemicals.

Decontamination Procedures/Tasks Brush off clothing, discard gloves, wash boots.

Evacuation Procedures/Route/Signals Proceed shortest distance to van.

Evacuation Meeting Area South parking lot Leonard High School JOT accessible at van.

Nearest Phone Mobile phone

Hospital Name/Address Presbyterian Hospital of Greenville, 4215 Joe Ramsey Blvd, Greenville, TX

Special Topics (incidents, actions taken, etc.) Cold weather, wet ground, be careful and not slip, watch for equipment on-site. Some transformers are stacked, may fall. Stay away from transformers and oil.

ATTENDEES

Print Name

JAMES D. THOMPSON
RAY NEWBY
GARY HAZELWOOD
ABIGAIL POWER

Sign Name

James D. Thompson
Ray Newby
Gary Hazelwood
Abigail Power


Meeting conducted by:

J.D. Thompson

APPENDIX C

COC Tracking Reports/Form I Data Assessment Summary

7

 EPA United States Environmental Protection Agency Contract Laboratory Program		Organic Traffic Report & Chain of Custody Record (For Organic CLP Analysis)			SAS No. (if applicable)	Case No. 25969					
1. Project Code	Account Code	2. Region No. 6	Sampling Co. TNRCC	4. Date Shipped 1-14-98	Carrier Airborne Express	6. Matrix (Enter in Column A) 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (Specify in Column A)	7. Preservative (Enter in Column D) 1. HCl 2. HNO3 3. NaHSO4 4. H2SO4 5. Ice only 6. Other (Specify in Column D) N. Not preserved				
Regional Information		Sampler (Name) Garry Hazelwood		Airbill Number 2423939033							
Non-Superfund Program		Sampler Signature <i>[Signature]</i>		5. Ship To Clayton Environmental Cons.							
Site Name Frank J. Doyle Transformer		3. Purpose Early Action <input checked="" type="checkbox"/> SF <input type="checkbox"/> PRP <input type="checkbox"/> ST <input type="checkbox"/> FED Long-Term Action <input type="checkbox"/> CLEM <input type="checkbox"/> PA <input type="checkbox"/> REM <input checked="" type="checkbox"/> RI <input type="checkbox"/> SI <input type="checkbox"/> ESI <input type="checkbox"/> FS <input type="checkbox"/> RD <input type="checkbox"/> RA <input type="checkbox"/> O&M <input type="checkbox"/> NPLD		22345 Roethal Drive							
City, State Leonard, TX		Site Spill ID		Novi, MI 48375		ATTN: Kelly Kolb (810) 344-1770					
CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) Other:	E RAS Analysis VOA BNA Pest/PCB High only ARO/TOX	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier B = Blank S = Spike D = Duplicate F = Fingerprint PE = Perform Eval - = Not a QC Sample
FFR69	4	Low	Grab		X X X	6-164735-737	ERO2	01/14/98 12:50	MFHL25	GH	
FFR97	4	Low	Grab		X	6-164742-743	FB02	01/14/98 13:15	MFHL25	GH	
FFR78	4	Low	Grab		X X X	6-162812-815	SO12	01/14/98 10:50	MFHL25	GH	
FFR79	4	Low	Grab		X X X	6-162818-821	SO13	01/14/98 9:00	MFHL25	GH	
FFR77	5	Low	Grab		X X X	6-162842-845	SO17	01/14/98 11:30	MFHL95	GH	
FFR72	5	Low	Grab		X X X	6-162848-851	SO18	01/14/98 11:45	MFHL94	GH	
FFR73	5	Low	Grab		X X X	6-162854-857	SO19	01/14/98 12:00	MFHL95	GH	
Shipment for Case Complete? (Y/N)		Page 1 of 1	Sample(s) to be Used for Laboratory QC			Additional Sampler Signatures			Chain of Custody Seal Number(s)		

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature) <i>[Signature]</i>	Date / Time 01/14/98 11:30	Received by: (Signature) Airborne Airbill # 2423939033	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/none

DISTRIBUTION: Blue - Region Copy
White - Lab Copy for Return to Region

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SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
SEE REVERSE FOR PURPOSE CODE DEFINITIONS

361686

A21-012-3 REV. 3/93



United States Environmental Protection Agency
Contract Laboratory Program

Organic Traffic Report & Chain of Custody Record

(For Organic CLP Analysis)

SAS No.
(if applicable)

Case No.

25969

1. Project Code	Account Code	2. Region No.	Sampling Co.	4. Date Shipped	Carrier	6. Matrix (Enter in Column A)	7. Preservative (Enter in Column D)
		6	TNRCC	01/14/98	Airborne Express		
Regional Information		Sampler (Name)		Airbill Number		1. Surface Water	
		Gary Hazelwood		2423939136		2. Ground Water	
Non-Superfund Program		Sampler Signature		2423938635 1-14-98		3. Leachate	
		Gary Hazelwood		5. Ship To		4. Field QC	
Site Name		3. Purpose*		Clayton Environmental Cont.		5. Soil/Sediment	
Frank J. Doyle Transt.		Early Action		22345 Roethal Drive		6. Oil (High only)	
City, State		Long-Term Action		Novi, MI 48375		7. Waste	
Leonard, TX		Lead		ATTN: Kelly Kolb 810-344-1770		8. Other (Specify in Column A)	
		SF				1. HCl	
		PRP				2. HNO3	
		ST				3. NaHSO4	
		FED				4. H2SO4	
		CLEM				5. Ice only	
		PA				6. Other	
		REM				(Specify in Column D)	
		BI				N. Not preserved	
		SI					
		ESI					

CLP Sample Numbers (from labels)	A Matrix (from Box 6)	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7)	E RAS Analysis				F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier
					VOA	BNA	Pest/ PCB	High only ARO/ TOX						
FFR96	4	Low	Grab	5	X				6-164740-741	FB01	01/14/98 8:50	N/A	GH	
FFR74	4	Low	Grab	5	X	X	X		6-164730-732	ER01	01/14/98 8:45	MFHL96	GH	
FFR84	5	Low	Grab	5	X	X	X		6-164775-778	SO-06	01/14/98 10:25	MFHM06	GH	
FFR89	5	Low	Grab	5	X	X	X		6-164769-772	SO-05	01/14/98 10:15	MFHM11	GH	
FFR80	5	Low	Grab	5	X	X	X		6-162824-827	SO-14	01/14/98 9:10	MFHM02	GH	
FFR75	5	Low	Grab	5	X	X	X		6-162830-833	SO-15	01/14/98 9:15	MFHL97	GH	D
FFR88	5	Low	Grab	5	X	X	X		6-164763-766	SO-04	01/14/98 10:00	MFHM10	GH	
Shipment for Case Complete? (Y/N)		Page		Sample(s) to be Used for Laboratory QC					Additional Sampler Signatures			Chain of Custody Seal Number(s)		
YES		of												

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[Signature]	01/14/98 15:30	Airborne Airbill # 2423939136			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/none

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EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
SEE REVERSE FOR PURPOSE CODE DEFINITIONS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10625 FALLSTONE RD.
HOUSTON, TEXAS 77099

MEMORANDUM

Date: March 17, 1998

Subject: Contract Laboratory Program Data Review

From: *Marvelyn Humphrey*
Marvelyn Humphrey, Alternate ESAT RPO, 6MD-HC

To: Bill Kirchner, 6SF-RA

Site: DOYLE, FRANK J. TRANSFORMERS

Case#: 25969

SDG#: FF-R69

The EPA Region 6 Houston Branch ESAT data review team has completed a review of the submitted Contract Laboratory Program (CLP) data package for the referenced site. The samples analyzed and reviewed are detailed in the attached Regional data review report.

The data package is acceptable for Regional use. Problems, if any, are listed in the report narrative.

If you have any questions regarding the data review report, please call me at (281) 983-2140.

Attachments

cc: R. Flores, Region 6 CLP/TPO
M. El-feky, Region 6 Data Coordinator
Files (2)



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LOCKHEED MARTIN SERVICES GROUP
ONE STERLING PLAZA
10101 SOUTHWEST FREEWAY, SUITE 500
HOUSTON, TEXAS 77074

MEMORANDUM

DATE: March 16, 1998
TO: Dr. Melvin Ritter, ESAT RPO, Region VI
FROM: Dr. Tom C.H. Chiang, ESAT Team Manager, Region VI
SUBJECT: CLP Data Review *Dr C.H. Chiang*
REF: TDF # 6-8170A, ESAT File # O-1887
ESAT Contract No. 68-D6-0005

Attached is the data review summary for Case # 25969
SDG # FFR69
Site DOYLE F J
TRANSFORMERS

COMMENTS:

I. CONTRACTUAL ASSESSMENT OF THE DATA PACKAGE

- A. The reviewer could only confirm the following contractually non-compliant items mentioned by CCS.
1. The laboratory extracted all Pest/PCB soil samples 15 days past the contractual holding time limit (OLM03.2, D-20/PEST, 8.4.1). The extraction of Pest/PCB samples FF-R89MS/MSD also exceeded the contractual limit by 24 days. The AR1260 results were qualified for samples FF-R72, FF-R73, FF-R75, FF-R77, FF-R78, FF-R79, FF-R80, and FF-R88.
 2. Method blank PBLK2S, associated with Pest/PCB samples FF-R89MS/MSD, was contaminated with AR1260 above the CRQL, but the samples were not re-extracted (OLM03.2; D-73/PEST; 12.1.2.4.3 and 12.1.2.5.2). Sample results were not qualified.
- B. The data package was 11 days late for the 35-day turnaround time requirement.

LOCKHEED MARTIN SERVICES GROUP
ONE STERLING PLAZA
10101 SOUTHWEST FREEWAY, SUITE 500
HOUSTON, TEXAS 77074

MEMORANDUM

Case # 25969
SDG # FFR69
Site DOYLE F J
TRANSFORMERS

II. TECHNICAL USABILITY ASSESSMENT OF THE DATA PACKAGE

The total number of results reviewed was 1566 for this data package. Some results were qualified because of the following significant problems.

- A. The technical holding time for extraction of Pest/PCB soil samples was excessive (26 days).
- B. Coeluting aroclor peaks interfered with the detection and quantitation of several pesticides.

COMMENTS/CLARIFICATIONS
REGION VI CLP QA REVIEW

CASE 25969 SDG FFR69 SITE DOYLE F J TRANSFORMERS LAB CLAYTN

The following is a summary of sample qualifiers used by Region 6 in reporting this CLP data:

<u>No.</u>	<u>Acceptable</u>	<u>Provisional</u>	<u>Unacceptable</u>
VOA	<u>5</u>	<u>9</u>	<u> </u>
BNA	<u>12</u>	<u> </u>	<u> </u>
PEST	<u>4</u>	<u>8</u>	<u> </u>

COMMENTS: The case consisted of 10 soil samples and 2 water samples for complete RAS organics analysis and 2 water samples for VOA analysis only. The Regional RSCC clarified that samples FF-R69 and FF-R74 were rinsates, sample FF-R96 was a field blank, sample FF-R97 was a trip blank, and samples FF-R75 and FF-R80 were field duplicates. The OTR/COC Records did not indicate what sample was for laboratory QC. The laboratory performed MS/MSD analyses on VOA sample FF-R72, BNA samples FF-R79 (medium level) and FF-R88 (low level), and Pest/PCB sample FF-R89. Five BNA soil samples were analyzed at medium levels because of high non-target compound concentrations. Other soil samples were low level samples.

The data package had the following contractually non-compliant items.

- Pest/PCB soil samples were extracted 15 days past the contractual holding time limit.
- The MS/MSD samples were not re-extracted when the associated method blank was contaminated with AR1260 above the CRQL.
- The data package arrived 11 days late for the 35-day turnaround time.

VOA/BNA: The VOA TCL analytes reported above the CRQL's included acetone, 2-butanone, and tetrachloroethene. However, the acetone and 2-butanone concentrations were due to laboratory contamination. The only BNA TCL analyte reported above the CRQL was hexachlorobenzene in sample FF-R72.

Pest/PCB: Extremely high concentrations of AR1260 (up to 4,100,000 µg/Kg) required 10X to 10,000X dilution for samples FF-R72, FF-R73, FF-R75, FF-R79, and FF-R80. AR1260 was also reported above the CRQL's in samples FF-R77, FF-R78, and FF-R88. Coeluting aroclor peaks interfered with the detection and quantitation of several pesticides.

Some results are provisional for nine VOA and eight Pest/PCB samples because of problems with holding time, calibration,

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10625 FALLSTONE ROAD
HOUSTON, TEXAS 77099

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 25969 SITE DOYLE F J TRANSFORMERS
LABORATORY CLAYTN NO. OF SAMPLES 14
CONTRACT# 68-D5-0005 MATRIX 10 soil & 4 water
SDG# FFR69 REVIEWER (IF NOT ESD) ESAT
SOW# RAS OLM03.2 REVIEWER'S NAME Mike Fertitta and
Yue-Mei Liu
ACCT# 8FAXJN27 SF# FAXU1D COMPLETION DATE March 16, 1998

SAMPLE NO.'s: FF-R69 FF-R75 FF-R80 FF-R96
FF-R72 FF-R77 FF-R84 FF-R97
FF-R73 FF-R78 FF-R88
FF-R74 FF-R79 FF-R89

DATA ASSESSMENT SUMMARY

	VOA	BNA	PEST
1. HOLDING TIMES	<u>O</u>	<u>O</u>	<u>M</u>
2. GC/MS TUNE/INSTR. PERFORM.	<u>O</u>	<u>O</u>	<u>O</u>
3. CALIBRATIONS	<u>M</u>	<u>O</u>	<u>O</u>
4. BLANKS	<u>O</u>	<u>O</u>	<u>O</u>
5. SMC/SURROGATES	<u>O</u>	<u>O</u>	<u>O</u>
6. MATRIX SPIKE/DUPLICATE	<u>O</u>	<u>O</u>	<u>O</u>
7. OTHER QC	<u>O</u>	<u>O</u>	<u>O</u>
8. INTERNAL STANDARDS	<u>O</u>	<u>O</u>	<u>N/A</u>
9. COMPOUND ID/QUANTITATION	<u>O</u>	<u>O</u>	<u>M</u>
10. PERFORMANCE/COMPLETENESS	<u>O</u>	<u>O</u>	<u>O</u>
11. OVERALL ASSESSMENT	<u>M</u>	<u>O</u>	<u>M</u>

O = Data had no problems.

M = Data qualified due to major or minor problems.

Z = Data unacceptable.

NA = Not applicable.

ACTION ITEMS: The extraction of the Pest/PCB soil samples exceeded the contractual holding time limit. Samples were not re-extracted when the associated method blank was contaminated with AR1260 above the CRQL. The data package arrived 11 days late.

AREA OF CONCERN: Technical holding time was excessive for the extraction of Pest/PCB soil samples. Acetone failed the technical %RSD and %D calibration criteria. Aroclor peak interferences obscured the detection or interfered with the quantitation of pesticides in seven samples.

NOTABLE PERFORMANCE:

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CASE 25962 SDG FFR69 SITE DOYLE F J TRANSFORMERS LAB CLAYTN

COMMENTS (continued): compound identification, and compound quantitation. The technical usability of all reported sample results is indicated by ESAT's final data qualifiers in the Data Summary Table. An Evidence Audit was conducted for the Complete Sample Delivery Group File (CSF), and the results were recorded in the Evidence Inventory Checklist.

NOTE: THE FOLLOWING REVIEW NARRATIVE ADDRESSES BOTH CONTRACTUAL ISSUES (BASED ON THE STATEMENT OF WORK) AND TECHNICAL ISSUES (BASED ON THE NATIONAL FUNCTIONAL GUIDELINES). THE ASSESSMENT MADE FOR EACH QC PARAMETER IS SOLELY BASED ON THE TECHNICAL DATA USABILITY, WHICH MAY NOT NECESSARILY BE AFFECTED BY CONTRACTUAL PROBLEMS. THE ASSESSMENTS ARE DEFINED BELOW.

Acceptable = No results were qualified for any problem associated with this QC parameter.
Provisional = Some results were qualified because of problems associated with this QC parameter.
Unusable = All results are unusable because of major problems associated with this QC parameter.

1. **Holding Times:** Provisional. The laboratory met contractual and technical holding time criteria for the VOA and BNA samples and for the Pest/PCB water samples but extracted all of the Pest/PCB soil samples 15 days past the contractual holding time limit. Technical holding times have not yet been established for soil samples. However, per Region 6 guidelines, the reviewer qualified as estimated the AR1260 results for Pest/PCB samples FF-R72, FF-R73, FF-R75, FF-R77, FF-R78, FF-R79, FF-R80, and FF-R88 because the technical holding time of the samples was 26 days. The other Pest/PCB sample results did not have analyte concentrations above the quantitation limits or were flagged "U" because of interferences, so qualification of those results was not required.

The laboratory received all samples at slightly elevated cooler temperatures (6.6°C and 7.8°C). In the reviewer's opinion, the cooler temperatures had no effect on the sample results.

2. **Tuning/Performance:** Acceptable. The BFB and DFTPP analyses met GC/MS tuning criteria for the VOA and BNA fractions. Endosulfan I and α -chlordane coeluted on column DB-5MS while their retention time windows overlapped on column DB-608. The reviewer verified that these problems did not affect the identification of Pest/PCB target analytes above CRQL levels in the samples.

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CASE 25969 SDG FFR69 SITE DOYLE F J TRANSFORMERS LAB CLAYTN

3. **Calibrations:** Provisional. Target analytes generally met contractual calibration criteria. The reviewer qualified the acetone concentrations as estimated in the following samples because of the technical %RSD and %D deficiencies: FF-R69, FF-R72, FF-R73, FF-R75, FF-R77, FF-R78, FF-R79, FF-R80, and FF-R88.

4. **Blanks:** Acceptable. All method, storage, and instrument blanks met contractual QC guidelines.

VOA/BNA: The method and storage blanks for VOA and BNA analyses contained bromomethane, methylene chloride, acetone, carbon disulfide, 2-butanone, 2-hexanone, 1,1,2,2-tetrachloroethane, diethylphthalate, and/or bis(2-ethylhexyl)phthalate below the contractual upper limits. Bromomethane, 2-hexanone, and 1,1,2,2-tetrachloroethane were not detected in any samples. The storage blank contamination was most likely introduced during the analysis rather than storage.

The method blanks for the BNA low level soil analysis were contaminated with high concentrations of alkanes (5,100 to 12,000 $\mu\text{g/kg}$). The reviewer verified that the early eluting hydrocarbons (eluting before 8 minutes) were attributed to laboratory contamination in all low level soil samples.

The reviewer qualified the bis(2-ethylhexyl)phthalate concentration in sample FF-R73 with a "B" flag to indicate a high bias resulting from laboratory contamination. All other VOA and BNA sample results that were "B" flagged by the laboratory should be considered as undetected (U) because the sample concentrations were less than 5X/10X the associated blank concentrations.

Pest/PCB: The instrument blanks and the method blank for the water samples were free from contamination. Method blank PBLK2S, associated only with the MS/MSD samples, was contaminated with AR1260 above the CRQL. Aroclor peaks were also reported in that blank as endrin and endrin ketone. The MS/MSD concentrations of AR1260 were more comparable to the concentration in the unspiked sample than they were to that in method blank PBLK2S, and the unspiked sample was associated with a method blank free from AR1260. In the reviewer's opinion, the AR1260 contamination in method blank PBLK2S was an isolated event not affecting the MS/MSD samples. Endrin was reported below the CRQL in method blank PBLK1S, but the endrin concentrations reported in the associated samples resulted from aroclor peak interference and not from laboratory contamination.

Field OC: Rinsate samples FF-R69 and FF-R74 were free from Pest/PCB contamination. The trip blank, field blank, and rinsate

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CASE 25969 SDG FFR69 SITE DOYLE F J TRANSFORMERS LAB CLAYTN

4. **Blanks (continued):** samples contained acetone, chloroform, 4-chloro-3-methylphenol, or diethylphthalate below the CRQL's. In addition, one of the rinsate samples contained acetone at the CRQL level. Sample results were not qualified based on field contamination because these field QC samples (water) and the field samples (soil) had different matrices and reporting units. Furthermore, information associating field samples with the rinsates was not available.

5. **System Monitoring Compounds (SMC's)/Surrogates:** Acceptable. All SMC and most surrogate recoveries met the contractual QC criteria. TCX recoveries were marginally below the contractual QC limit but within the expanded Region 6 limit for Pest/PCB sample FF-R78. Matrix interferences and/or dilution caused outlying surrogate recoveries for four other Pest/PCB samples. Therefore, Pest/PCB result qualification is unnecessary. The reviewer verified that Pest/PCB target analyte results were not affected by matrix interferences except for aroclor interferences which are discussed in Section 9 below.

6. **Matrix Spike/Matrix Spike Duplicate:** Acceptable. The BNA MS/MSD recoveries exceeded the upper QC limits for 2,4-dinitrotoluene and/or 4-nitrotoluene in the low soil and medium soil analyses. In addition, the %RPD exceeded the QC limits for toluene in VOA low soil analysis and for all BNA matrix spiking compounds in the medium level soil analysis. Since these TCL analytes were not detected above the CRQL's in the unspiked samples, results were not qualified. All other MS/MSD results met QC criteria for percent recovery and precision.

7. **Other QC:**

Field Duplicates: Acceptable. Field duplicate results were generally consistent.

8. **Internal Standards (IS):** Acceptable. The internal standard areas and retention times were within the QC limits for all of the VOA and BNA analyses.

9. **Compound Identity (ID)/Quantitation:** Provisional.

VOA/BNA: The TCL analytes reported above the CRQL's were acetone, 2-butanone, tetrachloroethene, and hexachlorobenzene. Except for BNA sample FF-R73, the acetone, 2-butanone, and bis(2-ethylhexyl)phthalate concentrations reported were due to laboratory contamination. All reported results met the compound identification and quantitation criteria.

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CASE 25969 SDG FFR69 SITE DOYLE F J TRANSFORMERS LAB CLAYTN

9. Compound ID/Quantitation (continued):

Pest/PCB: Extremely high concentrations of AR1260 (up to 4,100,000 $\mu\text{g/Kg}$) required 10X to 10,000X dilution for samples FF-R72, FF-R73, FF-R75, FF-R79, and FF-R80. The reviewer recommends using quantitation limits from the less diluted analyses for these samples except for those analytes whose detection was obscured by significant aroclor interferences. The results recommended for use are designated in the Data Summary Table. AR1260 was also reported above the CRQL's in samples FF-R77, FF-R78, and FF-R88.

The presence of AR1260 was confirmed by GC/MS analysis in samples FF-R72, FF-R73, FF-R75, FF-R77, FF-R79, and FF-R80. The GC/MS analysis did not confirm the identification of endrin and endrin ketone in samples FF-R72, FF-R75, and FF-R80. The laboratory reported the GC/MS detection limits for these analytes but calculated them based on an incorrect extraction level. The reviewer corrected these errors in the ESAT Data Summary Table.

AR1260 peaks interfered with the detection and identification of some pesticides on one or both columns. These interferences resulted in the sample result qualifications addressed below.

- The following analyte concentrations reported by the laboratory should be considered as raised quantitation limits ("U"):
 - endrin in sample FF-R77;
 - endrin and endrin ketone in samples FF-R73DL, FF-R78, and FF-R79DL;
 - endosulfan II and γ -chlordane in sample FF-R80; and
 - γ -chlordane in samples FF-R72, FF-R75 and FF-R79.
- The following concentrations reported below the quantitation limits (QL) were raised to the QL's and flagged "U":
 - endosulfan II and γ -chlordane in sample FF-R73;
 - endrin ketone in samples FF-R77, FF-R84, and FF-R88; and
 - endrin in samples FF-R84, FF-R88, and FF-R89.

ORGANIC QA REVIEW
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CASE 25969 SDG FFR69 SITE DOYLE F J TRANSFORMERS LAB CLAYTN

9. Compound ID/Quantitation (continued):

- The quantitation limits reported by the laboratory for DDT were qualified as estimated and biased low for samples FF-R72DL, FF-R73DL, FF-R75DL, FF-R77, FF-R78, FF-R79DL, and FF-R80DL.
- The quantitation limit (QL) reported by the laboratory for AR1254 in sample FF-R75 was qualified as estimated and biased low. The actual quantitation limit may be at least 1.5X the reported QL.

The reviewer qualified the AR1260 result for sample FF-R77 as estimated because the percent difference for the two-column quantitation results was greater than 25 percent.

10. **Performance/Completeness:** Acceptable. The data package was complete with minor deficiencies (see the FAX Record Log).

11. **Overall Assessment:** Data are acceptable for five VOA, all BNA, and four Pest/PCB samples.

VOA The acetone results are provisional for the following samples because of problems with calibrations: FF-R69, FF-R72, FF-R73, FF-R75, FF-R77, FF-R78, FF-R79, FF-R80, and FF-R88.

PEST Some results are provisional for samples FF-R72/DL, FF-R73/DL, FF-R75/DL, FF-R77, FF-R78, FF-R79/DL, FF-R80/DL, and FF-R88 because of problems with holding time, compound identification, and/or compound quantitation.

ORGANIC DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the ESAT-Region 6 qualifiers assigned to results in the Data Summary Table.

- U Not detected at reported quantitation limit.
- N Identification is tentative.
- J Estimated value.
- R Unusable.
- ^ High biased. Actual concentration may be lower than the concentration reported.
- v Low biased. Actual concentration may be higher than the concentration reported.
- F+ A false positive exists.
- F- A false negative exists.
- B This result may be high biased because of laboratory/field contamination. The reported concentration is above 5X or 10X the concentration reported in the method/field blank.
- UJ Estimated quantitation limit.
- T Identification is questionable because of absence of other commonly coexisting pesticides.
- * Result not recommended for use because of associated QA/QC performance inferior to that from other analysis.

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ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: WATER

Units: ug/L

VOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R69	FF-R74	FF-R96	FF-R97			
Chloromethane	10 U	10 U	10 U	10 U			
Bromomethane	10 U	10 U	10 U	10 U			
Vinyl chloride	10 U	10 U	10 U	10 U			
Chloroethane	10 U	10 U	10 U	10 U			
Methylene chloride	10 U	10 U	10 U	10 U			
Acetone	10 J	4 J	10 U	9 J			
Carbon disulfide	10 U	10 U	10 U	10 U			
1,1-Dichloroethene	10 U	10 U	10 U	10 U			
1,1-Dichloroethane	10 U	10 U	10 U	10 U			
1,2-Dichloroethene (total)	10 U	10 U	10 U	10 U			
Chloroform	10 U	10 U	1 J	10 U			
1,2-Dichloroethane	10 U	10 U	10 U	10 U			
2-Butanone	10 U	10 U	10 U	10 U			
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U			
Carbon tetrachloride	10 U	10 U	10 U	10 U			
Bromodichloromethane	10 U	10 U	10 U	10 U			
1,2-Dichloropropane	10 U	10 U	10 U	10 U			
cis-1,3-Dichloropropene	10 U	10 U	10 U	10 U			
Trichloroethene	10 U	10 U	10 U	10 U			
Dibromochloromethane	10 U	10 U	10 U	10 U			
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U			
Benzene	10 U	10 U	10 U	10 U			
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U			
Bromoform	10 U	10 U	10 U	10 U			
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U			
2-Hexanone	10 U	10 U	10 U	10 U			
Tetrachloroethene	10 U	10 U	10 U	10 U			
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U			
Toluene	10 U	10 U	10 U	10 U			
Chlorobenzene	10 U	10 U	10 U	10 U			
Ethylbenzene	10 U	10 U	10 U	10 U			
Styrene	10 U	10 U	10 U	10 U			
Xylenes (total)	10 U	10 U	10 U	10 U			
Sample Volume (mL):	5.0	5.0	5.0	5.0			
Dilution Factor:	1	1	1	1			
Number of TIC's:	1	0	0	0			

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

VOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R72	FF-R73	FF-R75	FF-R77	FF-R78	FF-R79	FF-R80
Chloromethane	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Bromomethane	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Vinyl chloride	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Chloroethane	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Methylene chloride	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Acetone	49 UJ	85 UJ	73 UJ	140 UJ	22 UJ	51 UJ	19 UJ
Carbon disulfide	13 U	13 U	14 U	12 U	13 U	12 U	14 U
1,1-Dichloroethene	13 U	13 U	14 U	12 U	13 U	12 U	14 U
1,1-Dichloroethane	13 U	13 U	14 U	12 U	13 U	12 U	14 U
1,2-Dichloroethene (total)	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Chloroform	13 U	13 U	14 U	12 U	13 U	12 U	14 U
1,2-Dichloroethane	13 U	13 U	14 U	12 U	13 U	12 U	14 U
2-Butanone	13 U	13 U	14 U	21 U	13 U	12 U	14 U
1,1,1-Trichloroethane	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Carbon tetrachloride	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Bromodichloromethane	13 U	13 U	14 U	12 U	13 U	12 U	14 U
1,2-Dichloropropane	13 U	13 U	14 U	12 U	13 U	12 U	14 U
cis-1,3-Dichloropropene	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Trichloroethene	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Dibromochloromethane	13 U	13 U	14 U	12 U	13 U	12 U	14 U
1,1,2-Trichloroethane	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Benzene	13 U	13 U	14 U	12 U	13 U	12 U	14 U
trans-1,3-Dichloropropene	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Bromoform	13 U	13 U	14 U	12 U	13 U	12 U	14 U
4-Methyl-2-pentanone	13 U	13 U	14 U	12 U	13 U	12 U	14 U
2-Hexanone	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Tetrachloroethene	13 U	13 U	14 U	12 U	13 U	20	14 U
1,1,2,2-Tetrachloroethane	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Toluene	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Chlorobenzene	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Ethylbenzene	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Styrene	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Xylenes (total)	13 U	13 U	14 U	12 U	13 U	12 U	14 U
Sample wt (g):	5.0	5.0	5.0	5.0	5.0	5.0	5.0
%Moisture:	25	25	27	14	24	20	27
Dilution Factor:	1	1	1	1	1	1	1
Level:	Low	Low	Low	Low	Low	Low	Low
Number of TIC's:	4	2	3	6	4	3	2

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

VOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R84	FF-R88	FF-R89				
Chloromethane	13 U	13 U	12 U				
Bromomethane	13 U	13 U	12 U				
Vinyl chloride	13 U	13 U	12 U				
Chloroethane	13 U	13 U	12 U				
Methylene chloride	13 U	13 U	12 U				
Acetone	13 U	47 UJ	12 U				
Carbon disulfide	13 U	13 U	12 U				
1,1-Dichloroethene	13 U	13 U	12 U				
1,1-Dichloroethane	13 U	13 U	12 U				
1,2-Dichloroethene (total)	13 U	13 U	12 U				
Chloroform	13 U	13 U	12 U				
1,2-Dichloroethane	13 U	13 U	12 U				
2-Butanone	13 U	13 U	12 U				
1,1,1-Trichloroethane	13 U	13 U	12 U				
Carbon tetrachloride	13 U	13 U	12 U				
Bromodichloromethane	13 U	13 U	12 U				
1,2-Dichloropropane	13 U	13 U	12 U				
cis-1,3-Dichloropropene	13 U	13 U	12 U				
Trichloroethene	13 U	13 U	12 U				
Dibromochloromethane	13 U	13 U	12 U				
1,1,2-Trichloroethane	13 U	13 U	12 U				
Benzene	13 U	13 U	12 U				
trans-1,3-Dichloropropene	13 U	13 U	12 U				
Bromoform	13 U	13 U	12 U				
4-Methyl-2-pentanone	13 U	13 U	12 U				
2-Hexanone	13 U	13 U	12 U				
Tetrachloroethene	13 U	13 U	12 U				
1,1,2,2-Tetrachloroethane	13 U	13 U	12 U				
Toluene	13 U	13 U	12 U				
Chlorobenzene	13 U	13 U	12 U				
Ethylbenzene	13 U	13 U	12 U				
Styrene	13 U	13 U	12 U				
Xylenes (total)	13 U	13 U	12 U				
Sample wt (g):	5.0	5.0	5.0				
%Moisture:	22	25	18				
Dilution Factor:	1	1	1				
Level:	Low	Low	Low				
Number of TIC's:	3	3	4				

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: WATER

Units: ug/L

SEMIVOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R69	FF-R74					
Phenol	10 U	10 U					
bis(2-Chloroethyl)ether	10 U	10 U					
2-Chlorophenol	10 U	10 U					
1,3-Dichlorobenzene	10 U	10 U					
1,4-Dichlorobenzene	10 U	10 U					
1,2-Dichlorobenzene	10 U	10 U					
2-Methylphenol	10 U	10 U					
2,2'-Oxybis(1-chloropropane)	10 U	10 U					
4-Methylphenol	10 U	10 U					
N-Nitroso-di-n-propylamine	10 U	10 U					
Hexachloroethane	10 U	10 U					
Nitrobenzene	10 U	10 U					
Isophorone	10 U	10 U					
2-Nitrophenol	10 U	10 U					
2,4-Dimethylphenol	10 U	10 U					
bis(2-Chloroethoxy)methane	10 U	10 U					
2,4-Dichlorophenol	10 U	10 U					
1,2,4-Trichlorobenzene	10 U	10 U					
Naphthalene	10 U	10 U					
4-Chloroaniline	10 U	10 U					
Hexachlorobutadiene	10 U	10 U					
4-Chloro-3-methylphenol	2 J	5 J					
2-Methylnaphthalene	10 U	10 U					
Hexachlorocyclopentadiene	10 U	10 U					
2,4,6-Trichlorophenol	10 U	10 U					
2,4,5-Trichlorophenol	25 U	25 U					
2-Chloronaphthalene	10 U	10 U					
2-Nitroaniline	25 U	25 U					
Dimethylphthalate	10 U	10 U					
Acenaphthylene	10 U	10 U					
2,6-Dinitrotoluene	10 U	10 U					
3-Nitroaniline	25 U	25 U					
Acenaphthene	10 U	10 U					
2,4-Dinitrophenol	25 U	25 U					
4-Nitrophenol	25 U	25 U					
Dibenzofuran	10 U	10 U					
2,4-Dinitrotoluene	10 U	10 U					
Diethylphthalate	10 U	0.5 J					
4-Chlorophenyl-phenylether	10 U	10 U					
Fluorene	10 U	10 U					
4-Nitroaniline	25 U	25 U					
4,6-Dinitro-2-methylphenol	25 U	25 U					
N-Nitrosodiphenylamine	10 U	10 U					
4-Bromophenyl-phenylether	10 U	10 U					
Hexachlorobenzene	10 U	10 U					

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: WATER

Units: ug/L

SEMIVOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R69	FF-R74						
Pentachlorophenol	25 U	25 U						
Phenanthrene	10 U	10 U						
Anthracene	10 U	10 U						
Carbazole	10 U	10 U						
Di-n-butylphthalate	10 U	10 U						
Fluoranthene	10 U	10 U						
Pyrene	10 U	10 U						
Butylbenzylphthalate	10 U	10 U						
3,3'-Dichlorobenzidine	10 U	10 U						
Benzo(a)anthracene	10 U	10 U						
Chrysene	10 U	10 U						
bis(2-Ethylhexyl)phthalate	10 U	10 U						
Di-n-octylphthalate	10 U	10 U						
Benzo(b)fluoranthene	10 U	10 U						
Benzo(k)fluoranthene	10 U	10 U						
Benzo(a)pyrene	10 U	10 U						
Indeno(1,2,3-cd)pyrene	10 U	10 U						
Dibenz(a,h)anthracene	10 U	10 U						
Benzo(g,h,i)perylene	10 U	10 U						
Sample Volume (mL):	1000.0	1000.0						
Dilution Factor:	1	1						
Number of TIC's:	2	2						

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

SEMIVOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R72	FF-R73	FF-R75	FF-R77	FF-R78	FF-R79	FF-R80
Phenol	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
bis(2-Chloroethyl)ether	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2-Chlorophenol	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
1,3-Dichlorobenzene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
1,4-Dichlorobenzene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
1,2-Dichlorobenzene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2-Methylphenol	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2,2'-Oxybis(1-chloropropane)	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
4-Methylphenol	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
N-Nitroso-di-n-propylamine	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Hexachloroethane	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Nitrobenzene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Isophorone	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2-Nitrophenol	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2,4-Dimethylphenol	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
bis(2-Chloroethoxy)methane	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2,4-Dichlorophenol	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
1,2,4-Trichlorobenzene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Naphthalene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
4-Chloroaniline	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Hexachlorobutadiene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
4-Chloro-3-methylphenol	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2-Methylnaphthalene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Hexachlorocyclopentadiene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2,4,6-Trichlorophenol	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2,4,5-Trichlorophenol	34000 U	1100 U	34000 U	32000 U	1100 U	32000 U	35000 U
2-Chloronaphthalene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2-Nitroaniline	34000 U	1100 U	34000 U	32000 U	1100 U	32000 U	35000 U
Dimethylphthalate	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Acenaphthylene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2,6-Dinitrotoluene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
3-Nitroaniline	34000 U	1100 U	34000 U	32000 U	1100 U	32000 U	35000 U
Acenaphthene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2,4-Dinitrophenol	34000 U	1100 U	34000 U	32000 U	1100 U	32000 U	35000 U
4-Nitrophenol	34000 U	1100 U	34000 U	32000 U	1100 U	32000 U	35000 U
Dibenzofuran	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
2,4-Dinitrotoluene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Diethylphthalate	14000 U	440 U	810 U	13000 U	440 U	13000 U	14000 U
4-Chlorophenyl-phenylether	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Fluorene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
4-Nitroaniline	34000 U	1100 U	34000 U	32000 U	1100 U	32000 U	35000 U
4,6-Dinitro-2-methylphenol	34000 U	1100 U	34000 U	32000 U	1100 U	32000 U	35000 U
N-Nitrosodiphenylamine	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
4-Bromophenyl-phenylether	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Hexachlorobenzene	15000	440 U	14000 U	13000 U	440 U	13000 U	14000 U

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

SEMIVOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R72	FF-R73	FF-R75	FF-R77	FF-R78	FF-R79	FF-R80
Pentachlorophenol	34000 U	1100 U	34000 U	32000 U	1100 U	32000 U	35000 U
Phenanthrene	14000 U	440 U	14000 U	1400 J	440 U	13000 U	14000 U
Anthracene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Carbazole	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Di-n-butylphthalate	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Fluoranthene	14000 U	38 J	14000 U	13000 U	28 J	13000 U	14000 U
Pyrene	14000 U	48 J	14000 U	13000 U	27 J	13000 U	14000 U
Butylbenzylphthalate	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
3,3'-Dichlorobenzidine	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Benzo(a)anthracene	14000 U	39 J	14000 U	13000 U	440 U	13000 U	14000 U
Chrysene	14000 U	62 J	14000 U	13000 U	24 J	13000 U	14000 U
bis(2-Ethylhexyl)phthalate	14000 U	260 JB	14000 U	950 J	440 U	13000 U	14000 U
Di-n-octylphthalate	14000 U	31 J	14000 U	13000 U	440 U	13000 U	14000 U
Benzo(b)fluoranthene	14000 U	74 J	14000 U	13000 U	28 J	13000 U	14000 U
Benzo(k)fluoranthene	14000 U	66 J	14000 U	13000 U	25 J	13000 U	14000 U
Benzo(a)pyrene	14000 U	50 J	14000 U	13000 U	440 U	13000 U	14000 U
Indeno(1,2,3-cd)pyrene	14000 U	46 J	14000 U	13000 U	440 U	13000 U	14000 U
Dibenz(a,h)anthracene	14000 U	440 U	14000 U	13000 U	440 U	13000 U	14000 U
Benzo(g,h,i)perylene	14000 U	44 J	14000 U	13000 U	440 U	13000 U	14000 U
Sample wt (g):	1.0	30.0	1.0	1.0	30.0	1.0	1.0
%Moisture:	26	26	26	22	26	22	28
Dilution Factor:	1	1	1	1	1	1	1
Level:	Med	Low	Med	Med	Low	Med	Med
Number of TIC's:	30	30	30	28	30	17	30

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

SEMIVOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R84	FF-R88	FF-R89				
Phenol	430 U	450 U	420 U				
bis(2-Chloroethyl)ether	430 U	450 U	420 U				
2-Chlorophenol	430 U	450 U	420 U				
1,3-Dichlorobenzene	430 U	450 U	420 U				
1,4-Dichlorobenzene	430 U	450 U	420 U				
1,2-Dichlorobenzene	430 U	450 U	420 U				
2-Methylphenol	430 U	450 U	420 U				
2,2'-Oxybis(1-chloropropane)	430 U	450 U	420 U				
4-Methylphenol	430 U	450 U	420 U				
N-Nitroso-di-n-propylamine	430 U	450 U	420 U				
Hexachloroethane	430 U	450 U	420 U				
Nitrobenzene	430 U	450 U	420 U				
Isophorone	430 U	450 U	420 U				
2-Nitrophenol	430 U	450 U	420 U				
2,4-Dimethylphenol	430 U	450 U	420 U				
bis(2-Chloroethoxy)methane	430 U	450 U	420 U				
2,4-Dichlorophenol	430 U	450 U	420 U				
1,2,4-Trichlorobenzene	430 U	450 U	420 U				
Naphthalene	430 U	450 U	420 U				
4-Chloroaniline	430 U	450 U	420 U				
Hexachlorobutadiene	430 U	450 U	420 U				
4-Chloro-3-methylphenol	430 U	450 U	420 U				
2-Methylnaphthalene	430 U	450 U	420 U				
Hexachlorocyclopentadiene	430 U	450 U	420 U				
2,4,6-Trichlorophenol	430 U	450 U	420 U				
2,4,5-Trichlorophenol	1100 U	1100 U	1100 U				
2-Chloronaphthalene	430 U	450 U	420 U				
2-Nitroaniline	1100 U	1100 U	1100 U				
Dimethylphthalate	430 U	450 U	420 U				
Acenaphthylene	430 U	450 U	420 U				
2,6-Dinitrotoluene	430 U	450 U	420 U				
3-Nitroaniline	1100 U	1100 U	1100 U				
Acenaphthene	430 U	450 U	420 U				
2,4-Dinitrophenol	1100 U	1100 U	1100 U				
4-Nitrophenol	1100 U	1100 U	1100 U				
Dibenzofuran	430 U	450 U	420 U				
2,4-Dinitrotoluene	430 U	450 U	420 U				
Diethylphthalate	430 U	450 U	420 U				
4-Chlorophenyl-phenylether	430 U	450 U	420 U				
Fluorene	430 U	450 U	420 U				
4-Nitroaniline	1100 U	1100 U	1100 U				
4,6-Dinitro-2-methylphenol	1100 U	1100 U	1100 U				
N-Nitrosodiphenylamine	430 U	450 U	420 U				
4-Bromophenyl-phenylether	430 U	450 U	420 U				
Hexachlorobenzene	430 U	450 U	420 U				

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

SEMIVOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R84	FF-R88	FF-R89				
Pentachlorophenol	1100 U	1100 U	1100 U				
Phenanthrene	160 J	40 J	75 J				
Anthracene	430 U	450 U	420 U				
Carbazole	430 U	450 U	420 U				
Di-n-butylphthalate	430 U	450 U	420 U				
Fluoranthene	390 J	120 J	130 J				
Pyrene	330 J	100 J	110 J				
Butylbenzylphthalate	430 U	450 U	420 U				
3,3'-Dichlorobenzidine	430 U	450 U	420 U				
Benzo(a)anthracene	140 J	52 J	49 J				
Chrysene	210 J	75 J	67 J				
bis(2-Ethylhexyl)phthalate	430 U	450 U	420 U				
Di-n-octylphthalate	32 J	450 U	420 U				
Benzo(b)fluoranthene	190 J	80 J	57 J				
Benzo(k)fluoranthene	170 J	74 J	55 J				
Benzo(a)pyrene	170 J	70 J	56 J				
Indeno(1,2,3-cd)pyrene	140 J	61 J	44 J				
Dibenz(a,h)anthracene	430 U	450 U	420 U				
Benzo(g,h,i)perylene	120 J	62 J	41 J				
Sample wt (g):	30.0	30.0	30.0				
%Moisture:	24	27	22				
Dilution Factor:	1	1	1				
Level:	Low	Low	Low				
Number of TIC's:	30	30	30				

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969
Laboratory: CLAYTN

SDG: FFR69
Matrix: WATER

Reviewer: Mike Fertitta
Units: ug/L

PESTICIDES/PCBs	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R69	FF-R74					
alpha-BHC	0.05 U	0.05 U					
beta-BHC	0.05 U	0.05 U					
delta-BHC	0.05 U	0.05 U					
gamma-BHC (lindane)	0.05 U	0.05 U					
Heptachlor	0.05 U	0.05 U					
Aldrin	0.05 U	0.05 U					
Heptachlor epoxide	0.05 U	0.05 U					
Endosulfan I	0.05 U	0.05 U					
Dieldrin	0.10 U	0.10 U					
4,4'-DDE	0.10 U	0.10 U					
Endrin	0.10 U	0.10 U					
Endosulfan II	0.10 U	0.10 U					
4,4'-DDD	0.10 U	0.10 U					
Endosulfan sulfate	0.10 U	0.10 U					
4,4'-DDT	0.10 U	0.10 U					
Methoxychlor	0.50 U	0.50 U					
Endrin ketone	0.10 U	0.10 U					
Endrin aldehyde	0.10 U	0.10 U					
alpha-Chlordane	0.05 U	0.05 U					
gamma-Chlordane	0.05 U	0.05 U					
Toxaphene	5.0 U	5.0 U					
Aroclor-1016	1.0 U	1.0 U					
Aroclor-1221	2.0 U	2.0 U					
Aroclor-1232	1.0 U	1.0 U					
Aroclor-1242	1.0 U	1.0 U					
Aroclor-1248	1.0 U	1.0 U					
Aroclor-1254	1.0 U	1.0 U					
Aroclor-1260	1.0 U	1.0 U					
Sample Volume (mL):	1000	1000					
Dilution Factor:	1.0	1.0					

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Mike Pertitta

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

PESTICIDES/PCBs	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R72	FF-R72DL	FF-R73	FF-R73DL	FF-R75	FF-R75DL	FF-R77
alpha-BHC	2300 U	23000 U*	2.3 U	23 U*	2300 U	23000 U*	2.2 U
beta-BHC	2300 U	23000 U*	2.3 U	23 U*	2300 U	23000 U*	2.2 U
delta-BHC	2300 U	23000 U*	2.3 U	23 U*	2300 U	23000 U*	2.2 U
gamma-BHC (lindane)	2300 U	23000 U*	2.3 U	23 U*	2300 U	23000 U*	2.2 U
Heptachlor	2300 U	23000 U*	2.3 U	23 U*	2300 U	23000 U*	2.2 U
Aldrin	2300 U	23000 U*	2.3 U	23 U*	2300 U	23000 U*	1.2 J
Heptachlor epoxide	2300 U	23000 U*	2.3 U	23 U*	2300 U	23000 U*	2.2 U
Endosulfan I	2300 U	23000 U*	2.3 U	23 U*	2300 U	23000 U*	2.2 U
Dieldrin	4400 U	44000 U*	4.4 U	44 U*	4400 U	44000 U*	4.2 U
4,4'-DDE	4400 U	44000 U*	4.4 U	44 U*	4400 U	44000 U*	3.9 J
Endrin	14000 U	14000 U*	95 *	190 U	14000 U	14000 U*	6.6 U
Endosulfan II	4400 U	14000 *	4.4 U	6.4 *	4400 U*	44000 U	4.2 U
4,4'-DDD	4400 U	44000 U*	4.4 U	44 U*	4400 U	44000 U*	4.2 U
Endosulfan sulfate	4400 U	44000 U*	4.4 U	44 U*	4400 U	44000 U*	4.2 U
4,4'-DBT	4400 U*	44000 UJv	4.4 U*	44 UJv	4400 U*	44000 UJv	4.2 UJv
Methoxychlor	23000 U	230000 U*	23 U	230 U*	23000 U	230000 U*	22 U
Endrin ketone	14000 U	14000 U*	43 *	70 U	14000 U	14000 U*	4.2 U
Endrin aldehyde	4400 U	44000 U*	4.4 U	44 U*	4400 U	44000 U*	4.2 U
alpha-Chlordane	2300 U	23000 U*	2.3 U	23 U*	2300 U	23000 U*	2.2 U
gamma-Chlordane	4600 U	5900 *	2.3 U	2.5 *	6600 U	8600 *	2.2 U
Toxaphene	230000 U	2300000 U*	230 U	2300 U*	230000 U	2300000 U*	220 U
Aroclor-1016	44000 U	440000 U*	44 U	440 U*	44000 U	440000 U*	42 U
Aroclor-1221	90000 U	900000 U*	90 U	900 U*	90000 U	900000 U*	86 U
Aroclor-1232	44000 U	440000 U*	44 U	440 U*	44000 U	440000 U*	42 U
Aroclor-1242	44000 U	440000 U*	44 U	440 U*	44000 U	440000 U*	42 U
Aroclor-1248	44000 U	440000 U*	44 U	440 U*	44000 U	440000 U*	42 U
Aroclor-1254	44000 U	440000 U*	44 U	440 U*	44000 UJv	440000 U*	42 U
Aroclor-1260	1400000 *	2300000 J	1700 *	3100 J	2000000 *	4100000 J	160 J
Sample wt (g):	30.0	30.0	30.0	30.0	30.0	30.0	30.0
%Moisture:	26	26	26	26	26	26	22
Dilution Factor:	1000.0	10000.0	1.0	10.0	1000.0	10000.0	1.0

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Mike Fertitta

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

PESTICIDES/PCBs	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R78	FF-R79	FF-R79DL	FF-R80	FF-R80DL	FF-R84	FF-R88
alpha-BHC	2.3 U	110 U	1100 U*	2400 U	24000 U*	2.2 U	2.3 U
beta-BHC	2.3 U	110 U	1100 U*	2400 U	24000 U*	2.2 U	2.3 U
delta-BHC	2.3 U	110 U	1100 U*	2400 U	24000 U*	2.2 U	2.3 U
gamma-BHC (lindane)	2.3 U	110 U	1100 U*	2400 U	24000 U*	2.2 U	2.3 U
Heptachlor	2.3 U	110 U	1100 U*	2400 U	24000 U*	2.2 U	2.3 U
Aldrin	2.3 U	110 U	1100 U*	2400 U	24000 U*	2.2 U	2.3 U
Heptachlor epoxide	2.3 U	110 U	1100 U*	2400 U	24000 U*	2.2 U	2.3 U
Endosulfan I	2.3 U	110 U	1100 U*	2400 U	24000 U*	2.2 U	2.3 U
Dieldrin	4.4 U	210 U	2100 U*	4600 U	46000 U*	4.2 U	4.5 U
4,4'-DDE	1.2 J	210 U	2100 U*	4600 U	46000 U*	4.2 U	2.0 J
Endrin	14 U	3800 *	6500 U	14000 U	14000 U*	4.2 U	4.5 U
Endosulfan II	4.4 U	210 U	220 *	12000 U	11000 *	4.2 U	4.5 U
4,4'-DDD	4.4 U	24 J	2100 U*	4600 U	46000 U*	4.2 U	4.5 U
Endosulfan sulfate	4.4 U	210 U	2100 U*	4600 U	46000 U*	4.2 U	4.5 U
4,4'-DDT	4.4 UJv	210 U*	2100 UJv	4600 U*	46000 UJv	4.2 U	4.5 U
Methoxychlor	23 U	1100 U	11000 U*	24000 U	240000 U*	22 U	23 U
Endrin ketone	7.5 U	1500 *	2200 U	14000 U	14000 U*	4.2 U	4.5 U
Endrin aldehyde	4.4 U	210 U	2100 U*	4600 U	46000 U*	4.2 U	4.5 U
alpha-Chlordane	2.3 U	14 J	1100 U*	2400 U	24000 U*	2.2 U	2.3 U
gamma-Chlordane	2.3 U	120 U	180 *	6600 U	9100 *	2.2 U	2.3 U
Toxaphene	230 U	11000 U	110000 U*	240000 U	2400000 U*	220 U	230 U
Aroclor-1016	44 U	2100 U	21000 U*	46000 U	460000 U*	42 U	45 U
Aroclor-1221	90 U	4300 U	43000 U*	93000 U	930000 U*	86 U	92 U
Aroclor-1232	44 U	2100 U	21000 U*	46000 U	460000 U*	42 U	45 U
Aroclor-1242	44 U	2100 U	21000 U*	46000 U	460000 U*	42 U	45 U
Aroclor-1248	44 U	2100 U	21000 U*	46000 U	460000 U*	42 U	45 U
Aroclor-1254	44 U	2100 U	21000 U*	46000 U	460000 U*	42 U	45 U
Aroclor-1260	320 J	63000 *	94000 J	1700000 *	3000000 J	37 J	75 J
Sample wt (g):	30.0	30.0	30.0	30.0	30.0	30.0	30.0
%Moisture:	26	22	22	28	28	22	27
Dilution Factor:	1.0	50.0	500.0	1000.0	10000.0	1.0	1.0

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR69

Reviewer: Mike Fertitta

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

PESTICIDES/PCBs	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R89						
alpha-BHC	2.3 U						
beta-BHC	2.3 U						
delta-BHC	2.3 U						
gamma-BHC (lindane)	2.3 U						
Heptachlor	2.3 U						
Aldrin	2.3 U						
Heptachlor epoxide	2.3 U						
Endosulfan I..	2.3 U						
Dieldrin	4.4 U						
4,4'-DDE	4.4 U						
Endrin	4.4 U						
Endosulfan II	4.4 U						
4,4'-DDD	4.4 U						
Endosulfan sulfate	4.4 U						
4,4'-DDT	4.4 U						
Methoxychlor	23 U						
Endrin ketone	4.4 U						
Endrin aldehyde	4.4 U						
alpha-Chlordane	2.3 U						
gamma-Chlordane	2.3 U						
Toxaphene	230 U						
Aroclor-1016	44 U						
Aroclor-1221	90 U						
Aroclor-1232	44 U						
Aroclor-1242	44 U						
Aroclor-1248	44 U						
Aroclor-1254	44 U						
Aroclor-1260	31 J						
Sample wt (g):	30.0						
%Moisture:	26						
Dilution Factor:	1.0						

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

INORGANIC/ORGANIC COMPLETE SDG FILE (CSF) INVENTORY CHECKLIST

Case No. 25969 SDG No. FFR69 SDG Nos. To Follow _____ SAS No. _____ Date Rec 03-02-98

EPA Lab ID:	CLAYTN	ORIGINALS	YES	NO	N/A
Lab Location:	22345 Roethal Drive, Nori, MI 48375	CUSTODY SEALS			
Region:	6 Audit No.: 25969/FFR69	1. Present on package?	X		
Re_Submitted CSF?	Yes No X	2. Intact upon receipt?	X		
Box No(s):	1	FORM DC-2			
COMMENTS:		3. Numbering scheme accurate?	X		
		4. Are enclosed documents listed?	X		
		5. Are listed documents enclosed?	X		
		FORM DC-1			
		6. Present?	X		
		7. Complete?	X		
		8. Accurate?	X		
		CHAIN-OF-CUSTODY RECORD(s)			
		9. Signed?	X		
		10. Dated?	X		
		TRAFFIC REPORT(s) PACKING LIST(s)			
		11. Signed?	X		
		12. Dated?	X		
		AIRBILLS/AIRBILL STICKER			
		13. Present?	X		
		14. Signed?	X		
		15. Dated?	X		
		SAMPLE TAGS			
		16. Does DC-1 list tags as being included?	X		
		17. Present?	X		
		OTHER DOCUMENTS			
		18. Complete?	X		
		19. Legible?	X		
		20. Original?		X	
		20a. If "NO", does the copy indicate where original documents are located?		X	

Over for additional comments.

Over for additional comments.

Audited by: Ida B. F.

Audited by:

Audited by:

Signature

Yue-Mei Liu/ESAT Data Reviewer

Date 03-12-98

Date _____

Date _____

Printed Name/Title

TO BE COMPLETED BY CEAT

Date Recvd by CEAT:

Date Entered:

Date Reviewed:

Entered by: _____

Reviewed by:

Signature

Printed Name/Title

In Reference To
Case 25969 SDG FFR69
ESAT File No. O-1887
Page 1 of 2 Pages

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

FAX Record Log

Date of FAX: March 17, 1998
Laboratory Name: CLAYTN
Lab Contact: Kelly Kolb
Region: 6
Regional Contact: Mahmoud El-Feky - EPA
ESAT Reviewer: Michael J. Fertitta - ESAT
FAX initiated by: Laboratory X Region

In reference to data for the Pest/PCB fraction.

Summary of Questions/Issues:

1. The "C" flags were omitted from the AR1260 results for samples FF-R72, FF-R73DL, FF-R79, FF-R79DL, and FF-R80. Please correct and resubmit the Forms 1 for these samples (pages 1133, 1205, 1303, 1326, and 1335).
2. The endrin concentration in sample FF-R88 was below the CRQL, but the result was missing a "J" flag. Please correct and resubmit the Form 1 (page 1400).
3. Samples FF-R72/DL, FF-R75/DL, and FF-R80/DL: The case narrative indicated that GC/MS confirmation was performed on both the BNA and the Pest/PCB extracts for these samples but did not clarify which extract the 330 µg/kg detection limit for the unconfirmed endrin and endrin ketone was based on. If it was based on the BNA extract, the detection limit should be a minimum of 30X higher because of the medium level extraction. Please clarify this issue or resubmit Form I's to report the medium level detection limit for endrin and endrin ketone.

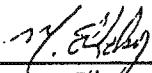
NOTE: Any laboratory resubmission should be submitted either as an addendum to the original CSF with a revised Form DC-2 or submitted as a new CSF with a new Form DC-2 (OLM03.0, p. B-22), except those containing only replacement pages. Custody seals are required for all CSF resubmission shipments.

In Reference To
Case 25969 SDG FFR69
ESAT File No. O-1887
Page 1 of 2 Pages

Please respond to the above items. Region 6 resubmissions may be included with CCS response or sent separately within 7 days to:

Mr. Mahmoud El-Feky
U.S. EPA Region 6 Laboratory
10625 Fallstone Road
Houston, TX 77099

If you have any questions, please contact me at (281) 983-2128.



Signature

03/17/98

Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) ESAT Copy

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR69

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) WATER

Lab Sample ID:58072-001

Sample wt/vol: 5.00 (g/ml) ML

Lab File ID: C9910 /

Level: (low/med) LOW

Date Received: 1/15/98 /

% Moisture: not dec.

Date Analyzed: 1/16/98 /

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0 (uL)

Soil Aliquot Volume:0 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3-----	Chloromethane	10.	U
74-83-9-----	Bromomethane	10.	U
75-01-4-----	Vinyl Chloride	10.	U
75-00-3-----	Chloroethane	10.	U
75-09-2-----	Methylene Chloride	10.	U
67-64-1-----	Acetone	10.	U
75-15-0-----	Carbon Disulfide	10.	U
75-35-4-----	1,1-Dichloroethene	10.	U
75-34-3-----	1,1-Dichloroethane	10.	U
540-59-0-----	1,2-Dichloroethene (total)	10.	U
67-66-3-----	Chloroform	10.	U
107-06-2-----	1,2-Dichloroethane	10.	U
78-93-3-----	2-Butanone	10.	U
71-55-6-----	1,1,1-Trichloroethane	10.	U
56-23-5-----	Carbon Tetrachloride	10.	U
75-27-4-----	Bromodichloromethane	10.	U
78-87-5-----	1,2-Dichloropropane	10.	U
10061-01-5-----	cis-1,3-Dichloropropene	10.	U
79-01-6-----	Trichloroethene	10.	U
124-48-1-----	Dibromochloromethane	10.	U
79-00-5-----	1,1,2-Trichloroethane	10.	U
71-43-2-----	Benzene	10.	U
10061-02-6-----	trans-1,3-Dichloropropene	10.	U
75-25-2-----	Bromoform	10.	U
108-10-1-----	4-Methyl-2-Pentanone	10.	U
591-78-6-----	2-Hexanone	10.	U
127-18-4-----	Tetrachloroethene	10.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10.	U
108-88-3-----	Toluene	10.	U
108-90-7-----	Chlorobenzene	10.	U
100-41-4-----	Ethylbenzene	10.	U
100-42-5-----	Styrene	10.	U
1330-20-7-----	Xylene (total)	10.	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

FFR72

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-003

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9059

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 25

Date Analyzed: 1/19/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	13.	U
74-83-9-----	Bromomethane	13.	U
75-01-4-----	Vinyl Chloride	13.	U
75-00-3-----	Chloroethane	13.	U
75-09-2-----	Methylene Chloride	7.	JB
67-64-1-----	Acetone	✓ 49.	B
75-15-0-----	Carbon Disulfide	13.	U
75-35-4-----	1,1-Dichloroethene	13.	U
75-34-3-----	1,1-Dichloroethane	13.	U
540-59-0-----	1,2-Dichloroethene (total)	13.	U
67-66-3-----	Chloroform	13.	U
107-06-2-----	1,2-Dichloroethane	13.	U
78-93-3-----	2-Butanone	4.	JB
71-55-6-----	1,1,1-Trichloroethane	13.	U
56-23-5-----	Carbon Tetrachloride	13.	U
75-27-4-----	Bromodichloromethane	13.	U
78-87-5-----	1,2-Dichloropropane	13.	U
10061-01-5-----	cis-1,3-Dichloropropene	13.	U
79-01-6-----	Trichloroethene	13.	U
124-48-1-----	Dibromochloromethane	13.	U
79-00-5-----	1,1,2-Trichloroethane	13.	U
71-43-2-----	Benzene	13.	U
10061-02-6-----	trans-1,3-Dichloropropene	13.	U
75-25-2-----	Bromoform	13.	U
108-10-1-----	4-Methyl-2-Pentanone	13.	U
591-78-6-----	2-Hexanone	13.	U
127-18-4-----	Tetrachloroethene	13.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	13.	U
108-88-3-----	Toluene	13.	U
108-90-7-----	Chlorobenzene	13.	U
100-41-4-----	Ethylbenzene	13.	U
100-42-5-----	Styrene	13.	U
1330-20-7-----	Xylene (total)	13.	U

FORM I VOA

0029 OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR73

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-004

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9062 /

Level: (low/med) LOW

Date Received: 1/15/98 /

% Moisture: not dec. 25

Date Analyzed: 1/19/98 /

GC Column:DB-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0 (uL)

Soil Aliquot Volume:0 (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

74-87-3-----	Chloromethane	✓ 13.	U
74-83-9-----	Bromomethane	13.	U
75-01-4-----	Vinyl Chloride	13.	U
75-00-3-----	Chloroethane	13.	U
75-09-2-----	Methylene Chloride	8.	JB
67-64-1-----	Acetone	✓ 85.	B
75-15-0-----	Carbon Disulfide	13.	U
75-35-4-----	1,1-Dichloroethene	13.	U
75-34-3-----	1,1-Dichloroethane	13.	U
540-59-0-----	1,2-Dichloroethene (total)	13.	U
67-66-3-----	Chloroform	13.	U
107-06-2-----	1,2-Dichloroethane	13.	U
78-93-3-----	2-Butanone	6.	JB
71-55-6-----	1,1,1-Trichloroethane	13.	U
56-23-5-----	Carbon Tetrachloride	13.	U
75-27-4-----	Bromodichloromethane	13.	U
78-87-5-----	1,2-Dichloropropane	13.	U
10061-01-5-----	cis-1,3-Dichloropropene	13.	U
79-01-6-----	Trichloroethene	13.	U
124-48-1-----	Dibromochloromethane	13.	U
79-00-5-----	1,1,2-Trichloroethane	13.	U
71-43-2-----	Benzene	13.	U
10061-02-6-----	trans-1,3-Dichloropropene	13.	U
75-25-2-----	Bromoform	13.	U
108-10-1-----	4-Methyl-2-Pentanone	13.	U
591-78-6-----	2-Hexanone	13.	U
127-18-4-----	Tetrachloroethene	13.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	13.	U
108-88-3-----	Toluene	13.	U
108-90-7-----	Chlorobenzene	13.	U
100-41-4-----	Ethylbenzene	13.	U
100-42-5-----	Styrene	13.	U
1330-20-7-----	Xylene (total)	13.	U

FORM I VOA

0044

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR74

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) WATER

Lab Sample ID: 58072-012

Sample wt/vol: 5.00 (g/ml) ML

Lab File ID: C9912

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec.

Date Analyzed: 1/16/98

GC Column: DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 0

(uL)

Soil Aliquot Volume: 0

(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

74-87-3-----	Chloromethane	10.	U
74-83-9-----	Bromomethane	10.	U
75-01-4-----	Vinyl Chloride	10.	U
75-00-3-----	Chloroethane	10.	U
75-09-2-----	Methylene Chloride	10.	U
67-64-1-----	Acetone	4.	J
75-15-0-----	Carbon Disulfide	10.	U
75-35-4-----	1,1-Dichloroethene	10.	U
75-34-3-----	1,1-Dichloroethane	10.	U
540-59-0-----	1,2-Dichloroethene (total)	10.	U
67-66-3-----	Chloroform	10.	U
107-06-2-----	1,2-Dichloroethane	10.	U
78-93-3-----	2-Butanone	10.	U
71-55-6-----	1,1,1-Trichloroethane	10.	U
56-23-5-----	Carbon Tetrachloride	10.	U
75-27-4-----	Bromodichloromethane	10.	U
78-87-5-----	1,2-Dichloropropane	10.	U
10061-01-5-----	cis-1,3-Dichloropropene	10.	U
79-01-6-----	Trichloroethene	10.	U
124-48-1-----	Dibromochloromethane	10.	U
79-00-5-----	1,1,2-Trichloroethane	10.	U
71-43-2-----	Benzene	10.	U
10061-02-6-----	trans-1,3-Dichloropropene	10.	U
75-25-2-----	Bromoform	10.	U
108-10-1-----	4-Methyl-2-Pentanone	10.	U
591-78-6-----	2-Hexanone	10.	U
127-18-4-----	Tetrachloroethene	10.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10.	U
108-88-3-----	Toluene	10.	U
108-90-7-----	Chlorobenzene	10.	U
100-41-4-----	Ethylbenzene	10.	U
100-42-5-----	Styrene	10.	U
1330-20-7-----	Xylene (total)	10.	U

FORM I VOA

OLM03.0

0057

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR75

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-013

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9067

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 27

Date Analyzed: 1/19/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3-----	Chloromethane	✓ 14.	U
74-83-9-----	Bromomethane	14.	U
75-01-4-----	Vinyl Chloride	14.	U
75-00-3-----	Chloroethane	14.	U
75-09-2-----	Methylene Chloride	5.	JB
67-64-1-----	Acetone	✓ 73.	B
75-15-0-----	Carbon Disulfide	14.	U
75-35-4-----	1,1-Dichloroethene	14.	U
75-34-3-----	1,1-Dichloroethane	14.	U
540-59-0-----	1,2-Dichloroethene (total)	14.	U
67-66-3-----	Chloroform	14.	U
107-06-2-----	1,2-Dichloroethane	14.	U
78-93-3-----	2-Butanone	6.	JB
71-55-6-----	1,1,1-Trichloroethane	14.	U
56-23-5-----	Carbon Tetrachloride	14.	U
75-27-4-----	Bromodichloromethane	14.	U
78-87-5-----	1,2-Dichloropropane	14.	U
10061-01-5-----	cis-1,3-Dichloropropene	14.	U
79-01-6-----	Trichloroethene	14.	U
124-48-1-----	Dibromochloromethane	14.	U
79-00-5-----	1,1,2-Trichloroethane	14.	U
71-43-2-----	Benzene	14.	U
10061-02-6-----	trans-1,3-Dichloropropene	14.	U
75-25-2-----	Bromoform	14.	U
108-10-1-----	4-Methyl-2-Pentanone	14.	U
591-78-6-----	2-Hexanone	14.	U
127-18-4-----	Tetrachloroethene	14.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	14.	U
108-88-3-----	Toluene	14.	U
108-90-7-----	Chlorobenzene	14.	U
100-41-4-----	Ethylbenzene	14.	U
100-42-5-----	Styrene	14.	U
1330-20-7-----	Xylene (total)	14.	U

FORM I VOA

0067 OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR77

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-005

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9063

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 14

Date Analyzed: 1/19/98

GC Column: DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 0 (uL)

Soil Aliquot Volume: 0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	✓ 12.	U
74-83-9-----	Bromomethane	12.	U
75-01-4-----	Vinyl Chloride	12.	U
75-00-3-----	Chloroethane	12.	U
75-09-2-----	Methylene Chloride	6.	JB
67-64-1-----	Acetone	✓ 140.	B
75-15-0-----	Carbon Disulfide	12.	U
75-35-4-----	1,1-Dichloroethene	12.	U
75-34-3-----	1,1-Dichloroethane	12.	U
540-59-0-----	1,2-Dichloroethene (total)	12.	U
67-66-3-----	Chloroform	12.	U
107-06-2-----	1,2-Dichloroethane	12.	U
78-93-3-----	2-Butanone	21.	B
71-55-6-----	1,1,1-Trichloroethane	12.	U
56-23-5-----	Carbon Tetrachloride	12.	U
75-27-4-----	Bromodichloromethane	12.	U
78-87-5-----	1,2-Dichloropropane	12.	U
10061-01-5-----	cis-1,3-Dichloropropene	12.	U
79-01-6-----	Trichloroethene	12.	U
124-48-1-----	Dibromochloromethane	12.	U
79-00-5-----	1,1,2-Trichloroethane	12.	U
71-43-2-----	Benzene	12.	U
10061-02-6-----	trans-1,3-Dichloropropene	12.	U
75-25-2-----	Bromoform	12.	U
108-10-1-----	4-Methyl-2-Pentanone	12.	U
591-78-6-----	2-Hexanone	12.	U
127-18-4-----	Tetrachloroethene	12.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	12.	U
108-88-3-----	Toluene	12.	U
108-90-7-----	Chlorobenzene	12.	U
100-41-4-----	Ethylbenzene	12.	U
100-42-5-----	Styrene	12.	U
1330-20-7-----	Xylene (total)	12.	U

0081

FORM I VOA

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

FFR78

Lab Code:CLAYTN Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-006

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9064

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 24

Date Analyzed: 1/19/98

GC Column:DB-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0 (uL)

Soil Aliquot Volume:0 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3-----	Chloromethane	✓ 13.	U
74-83-9-----	Bromomethane	13.	U
75-01-4-----	Vinyl Chloride	13.	U
75-00-3-----	Chloroethane	13.	U
75-09-2-----	Methylene Chloride	5.	JB
67-64-1-----	Acetone	✓ 22.	B
75-15-0-----	Carbon Disulfide	13.	U
75-35-4-----	1,1-Dichloroethene	13.	U
75-34-3-----	1,1-Dichloroethane	13.	U
540-59-0-----	1,2-Dichloroethene (total)	13.	U
67-66-3-----	Chloroform	13.	U
107-06-2-----	1,2-Dichloroethane	13.	U
78-93-3-----	2-Butanone	6.	JB
71-55-6-----	1,1,1-Trichloroethane	13.	U
56-23-5-----	Carbon Tetrachloride	13.	U
75-27-4-----	Bromodichloromethane	13.	U
78-87-5-----	1,2-Dichloropropane	13.	U
10061-01-5-----	cis-1,3-Dichloropropene	13.	U
79-01-6-----	Trichloroethene	13.	U
124-48-1-----	Dibromochloromethane	13.	U
79-00-5-----	1,1,2-Trichloroethane	13.	U
71-43-2-----	Benzene	13.	U
10061-02-6-----	trans-1,3-Dichloropropene	13.	U
75-25-2-----	Bromoform	13.	U
108-10-1-----	4-Methyl-2-Pentanone	13.	U
591-78-6-----	2-Hexanone	13.	U
127-18-4-----	Tetrachloroethene	13.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	13.	U
108-88-3-----	Toluene	13.	U
108-90-7-----	Chlorobenzene	13.	U
100-41-4-----	Ethylbenzene	13.	U
100-42-5-----	Styrene	13.	U
1330-20-7-----	Xylene (total)	13.	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

FFR79

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-007

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9065 /

Level: (low/med) LOW

Date Received: 1/15/98 /

% Moisture: not dec. 20

Date Analyzed: 1/19/98 /

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0 (uL)

Soil Aliquot Volume:0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	✓ 12.	U
74-83-9-----	Bromomethane	12.	U
75-01-4-----	Vinyl Chloride	12.	U
75-00-3-----	Chloroethane	12.	U
75-09-2-----	Methylene Chloride	7.	JB
67-64-1-----	Acetone	✓ 51.	B
75-15-0-----	Carbon Disulfide	12.	U
75-35-4-----	1,1-Dichloroethene	12.	U
75-34-3-----	1,1-Dichloroethane	12.	U
540-59-0-----	1,2-Dichloroethene (total)	12.	U
67-66-3-----	Chloroform	12.	U
107-06-2-----	1,2-Dichloroethane	12.	U
78-93-3-----	2-Butanone	6.	JB
71-55-6-----	1,1,1-Trichloroethane	12.	U
56-23-5-----	Carbon Tetrachloride	12.	U
75-27-4-----	Bromodichloromethane	12.	U
78-87-5-----	1,2-Dichloropropane	12.	U
10061-01-5-----	cis-1,3-Dichloropropene	12.	U
79-01-6-----	Trichloroethene	12.	U
124-48-1-----	Dibromochloromethane	12.	U
79-00-5-----	1,1,2-Trichloroethane	12.	U
71-43-2-----	Benzene	12.	U
10061-02-6-----	trans-1,3-Dichloropropene	12.	U
75-25-2-----	Bromoform	12.	U
108-10-1-----	4-Methyl-2-Pentanone	12.	U
591-78-6-----	2-Hexanone	12.	U
127-18-4-----	Tetrachloroethene	✓ 20.	
79-34-5-----	1,1,2,2-Tetrachloroethane	12.	U
108-88-3-----	Toluene	12.	U
108-90-7-----	Chlorobenzene	12.	U
100-41-4-----	Ethylbenzene	12.	U
100-42-5-----	Styrene	12.	U
1330-20-7-----	Xylene (total)	12.	U

FORM I VOA

0113 OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR80

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-009

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9047 /

Level: (low/med) LOW

Date Received: 1/15/98 /

% Moisture: not dec. 27

Date Analyzed: 1/17/98 /

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0 (uL)

Soil Aliquot Volume:0 (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

74-87-3-----	Chloromethane	14.	U
74-83-9-----	Bromomethane	14.	U
75-01-4-----	Vinyl Chloride	14.	U
75-00-3-----	Chloroethane	14.	U
75-09-2-----	Methylene Chloride	7.	JB
67-64-1-----	Acetone	✓ 19.	B
75-15-0-----	Carbon Disulfide	14.	U
75-35-4-----	1,1-Dichloroethene	14.	U
75-34-3-----	1,1-Dichloroethane	14.	U
540-59-0-----	1,2-Dichloroethene (total)	14.	U
67-66-3-----	Chloroform	14.	U
107-06-2-----	1,2-Dichloroethane	14.	U
78-93-3-----	2-Butanone	14.	U
71-55-6-----	1,1,1-Trichloroethane	14.	U
56-23-5-----	Carbon Tetrachloride	14.	U
75-27-4-----	Bromodichloromethane	14.	U
78-87-5-----	1,2-Dichloropropane	14.	U
10061-01-5-----	cis-1,3-Dichloropropene	14.	U
79-01-6-----	Trichloroethene	14.	U
124-48-1-----	Dibromochloromethane	14.	U
79-00-5-----	1,1,2-Trichloroethane	14.	U
71-43-2-----	Benzene	14.	U
10061-02-6-----	trans-1,3-Dichloropropene	14.	U
75-25-2-----	Bromoform	14.	U
108-10-1-----	4-Methyl-2-Pentanone	14.	U
591-78-6-----	2-Hexanone	14.	U
127-18-4-----	Tetrachloroethene	14.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	14.	U
108-88-3-----	Toluene	14.	U
108-90-7-----	Chlorobenzene	14.	U
100-41-4-----	Ethylbenzene	14.	U
100-42-5-----	Styrene	14.	U
1330-20-7-----	Xylene (total)	14.	U

FORM I VOA

0128

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR84

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-010

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9048

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 22

Date Analyzed: 1/17/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0 (uL)

Soil Aliquot Volume:0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	13.	U
74-83-9-----	Bromomethane	13.	U
75-01-4-----	Vinyl Chloride	13.	U
75-00-3-----	Chloroethane	13.	U
75-09-2-----	Methylene Chloride	5.	JB
67-64-1-----	Acetone	10.	JB
75-15-0-----	Carbon Disulfide	1.	JB
75-35-4-----	1,1-Dichloroethene	13.	U
75-34-3-----	1,1-Dichloroethane	13.	U
540-59-0-----	1,2-Dichloroethene (total)	13.	U
67-66-3-----	Chloroform	13.	U
107-06-2-----	1,2-Dichloroethane	13.	U
78-93-3-----	2-Butanone	13.	U
71-55-6-----	1,1,1-Trichloroethane	13.	U
56-23-5-----	Carbon Tetrachloride	13.	U
75-27-4-----	Bromodichloromethane	13.	U
78-87-5-----	1,2-Dichloropropane	13.	U
10061-01-5-----	cis-1,3-Dichloropropene	13.	U
79-01-6-----	Trichloroethene	13.	U
124-48-1-----	Dibromochloromethane	13.	U
79-00-5-----	1,1,2-Trichloroethane	13.	U
71-43-2-----	Benzene	13.	U
10061-02-6-----	trans-1,3-Dichloropropene	13.	U
75-25-2-----	Bromoform	13.	U
108-10-1-----	4-Methyl-2-Pentanone	13.	U
591-78-6-----	2-Hexanone	13.	U
127-18-4-----	Tetrachloroethene	13.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	13.	U
108-88-3-----	Toluene	13.	U
108-90-7-----	Chlorobenzene	13.	U
100-41-4-----	Ethylbenzene	13.	U
100-42-5-----	Styrene	13.	U
1330-20-7-----	Xylene (total)	13.	U

FORM I VOA

0141 OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR88

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-008

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9066 ✓

Level: (low/med) LOW

Date Received: 1/15/98 ✓

% Moisture: not dec. 25

Date Analyzed: 1/19/98 ✓

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

74-87-3-----	Chloromethane	✓ 13.	U
74-83-9-----	Bromomethane	13.	U
75-01-4-----	Vinyl Chloride	13.	U
75-00-3-----	Chloroethane	13.	U
75-09-2-----	Methylene Chloride	7.	JB
67-64-1-----	Acetone	✓ 47.	B
75-15-0-----	Carbon Disulfide	1.	JB
75-35-4-----	1,1-Dichloroethene	13.	U
75-34-3-----	1,1-Dichloroethane	13.	U
540-59-0-----	1,2-Dichloroethene (total)	13.	U
67-66-3-----	Chloroform	13.	U
107-06-2-----	1,2-Dichloroethane	13.	U
78-93-3-----	2-Butanone	4.	JB
71-55-6-----	1,1,1-Trichloroethane	13.	U
56-23-5-----	Carbon Tetrachloride	13.	U
75-27-4-----	Bromodichloromethane	13.	U
78-87-5-----	1,2-Dichloropropane	13.	U
10061-01-5-----	cis-1,3-Dichloropropene	13.	U
79-01-6-----	Trichloroethene	13.	U
124-48-1-----	Dibromochloromethane	13.	U
79-00-5-----	1,1,2-Trichloroethane	13.	U
71-43-2-----	Benzene	13.	U
10061-02-6-----	trans-1,3-Dichloropropene	13.	U
75-25-2-----	Bromoform	13.	U
108-10-1-----	4-Methyl-2-Pentanone	13.	U
591-78-6-----	2-Hexanone	13.	U
127-18-4-----	Tetrachloroethene	13.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	13.	U
108-88-3-----	Toluene	13.	U
108-90-7-----	Chlorobenzene	13.	U
100-41-4-----	Ethylbenzene	13.	U
100-42-5-----	Styrene	13.	U
1330-20-7-----	Xylene (total)	13.	U

FORM I VOA

OLM03.0
0155

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

FFR89

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-011

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9049 /

Level: (low/med) LOW

Date Received: 1/15/98 /

% Moisture: not dec. 18

Date Analyzed: 1/17/98 /

GC Column: DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 0 (uL)

Soil Aliquot Volume: 0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	12.	U
74-83-9-----	Bromomethane	12.	U
75-01-4-----	Vinyl Chloride	12.	U
75-00-3-----	Chloroethane	12.	U
75-09-2-----	Methylene Chloride	4.	JB
67-64-1-----	Acetone	7.	JB
75-15-0-----	Carbon Disulfide	1.	JB
75-35-4-----	1,1-Dichloroethene	12.	U
75-34-3-----	1,1-Dichloroethane	12.	U
540-59-0-----	1,2-Dichloroethene (total)	12.	U
67-66-3-----	Chloroform	12.	U
107-06-2-----	1,2-Dichloroethane	12.	U
78-93-3-----	2-Butanone	12.	U
71-55-6-----	1,1,1-Trichloroethane	12.	U
56-23-5-----	Carbon Tetrachloride	12.	U
75-27-4-----	Bromodichloromethane	12.	U
78-87-5-----	1,2-Dichloropropane	12.	U
10061-01-5-----	cis-1,3-Dichloropropene	12.	U
79-01-6-----	Trichloroethene	12.	U
124-48-1-----	Dibromochloromethane	12.	U
79-00-5-----	1,1,2-Trichloroethane	12.	U
71-43-2-----	Benzene	12.	U
10061-02-6-----	trans-1,3-Dichloropropene	12.	U
75-25-2-----	Bromoform	12.	U
108-10-1-----	4-Methyl-2-Pentanone	12.	U
591-78-6-----	2-Hexanone	12.	U
127-18-4-----	Tetrachloroethene	12.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	12.	U
108-88-3-----	Toluene	12.	U
108-90-7-----	Chlorobenzene	12.	U
100-41-4-----	Ethylbenzene	12.	U
100-42-5-----	Styrene	12.	U
1330-20-7-----	Xylene (total)	12.	U

FORM I VOA

0170 OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR96

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) WATER

Lab Sample ID:58072-014

Sample wt/vol: 5.00 (g/ml) ML

Lab File ID: C9913

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec.

Date Analyzed: 1/16/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

74-87-3-----	Chloromethane	10.	U
74-83-9-----	Bromomethane	10.	U
75-01-4-----	Vinyl Chloride	10.	U
75-00-3-----	Chloroethane	10.	U
75-09-2-----	Methylene Chloride	10.	U
67-64-1-----	Acetone	10.	U
75-15-0-----	Carbon Disulfide	10.	U
75-35-4-----	1,1-Dichloroethene	10.	U
75-34-3-----	1,1-Dichloroethane	10.	U
540-59-0-----	1,2-Dichloroethene (total)	10.	U
67-66-3-----	Chloroform	1.	J
107-06-2-----	1,2-Dichloroethane	10.	U
78-93-3-----	2-Butanone	10.	U
71-55-6-----	1,1,1-Trichloroethane	10.	U
56-23-5-----	Carbon Tetrachloride	10.	U
75-27-4-----	Bromodichloromethane	10.	U
78-87-5-----	1,2-Dichloropropane	10.	U
10061-01-5-----	cis-1,3-Dichloropropene	10.	U
79-01-6-----	Trichloroethene	10.	U
124-48-1-----	Dibromochloromethane	10.	U
79-00-5-----	1,1,2-Trichloroethane	10.	U
71-43-2-----	Benzene	10.	U
10061-02-6-----	trans-1,3-Dichloropropene	10.	U
75-25-2-----	Bromoform	10.	U
108-10-1-----	4-Methyl-2-Pentanone	10.	U
591-78-6-----	2-Hexanone	10.	U
127-18-4-----	Tetrachloroethene	10.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10.	U
108-88-3-----	Toluene	10.	U
108-90-7-----	Chlorobenzene	10.	U
100-41-4-----	Ethylbenzene	10.	U
100-42-5-----	Styrene	10.	U
1330-20-7-----	Xylene (total)	10.	U

FORM I VOA

0185

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CLAYTON LABORATORY

Contract: 68²D5-0005

FFR97

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) WATER

Lab Sample ID: 58072-002

Sample wt/vol: 5.00 (g/ml) ML

Lab File ID: C9911

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec.

Date Analyzed: 1/16/98

GC Column: DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: 0

(uL)

Soil Aliquot Volume: 0

(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

74-87-3-----	Chloromethane	10.	U
74-83-9-----	Bromomethane	10.	U
75-01-4-----	Vinyl Chloride	10.	U
75-00-3-----	Chloroethane	10.	U
75-09-2-----	Methylene Chloride	10.	U
67-64-1-----	Acetone	9.	J
75-15-0-----	Carbon Disulfide	10.	U
75-35-4-----	1,1-Dichloroethene	10.	U
75-34-3-----	1,1-Dichloroethane	10.	U
540-59-0-----	1,2-Dichloroethene (total)	10.	U
67-66-3-----	Chloroform	10.	U
107-06-2-----	1,2-Dichloroethane	10.	U
78-93-3-----	2-Butanone	10.	U
71-55-6-----	1,1,1-Trichloroethane	10.	U
56-23-5-----	Carbon Tetrachloride	10.	U
75-27-4-----	Bromodichloromethane	10.	U
78-87-5-----	1,2-Dichloropropane	10.	U
10061-01-5-----	cis-1,3-Dichloropropene	10.	U
79-01-6-----	Trichloroethene	10.	U
124-48-1-----	Dibromochloromethane	10.	U
79-00-5-----	1,1,2-Trichloroethane	10.	U
71-43-2-----	Benzene	10.	U
10061-02-6-----	trans-1,3-Dichloropropene	10.	U
75-25-2-----	Bromoform	10.	U
108-10-1-----	4-Methyl-2-Pentanone	10.	U
591-78-6-----	2-Hexanone	10.	U
127-18-4-----	Tetrachloroethene	10.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	10.	U
108-88-3-----	Toluene	10.	U
108-90-7-----	Chlorobenzene	10.	U
100-41-4-----	Ethylbenzene	10.	U
100-42-5-----	Styrene	10.	U
1330-20-7-----	Xylene (total)	10.	U

0194

FORM I VOA

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR69

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) WATER

Lab Sample ID:58072-001

Sample wt/vol: 1000.0 (g/ml) ML

Lab File ID: G1942

Level: (low/med) LOW /

Date Received: 1/15/98 /

% Moisture: decanted: (Y/N)

Date Extracted: 1/15/98 /

Concentrated Extract Volume: 1000.0 (uL)

Date Analyzed: 1/19/98 /

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0 /

GPC Cleanup: (Y/N) N pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

108-95-2-----	Phenol	10.	U
111-44-4-----	bis(2-Chloroethyl)ether	10.	U
95-57-8-----	2-Chlorophenol	10.	U
541-73-1-----	1,3-Dichlorobenzene	10.	U
106-46-7-----	1,4-Dichlorobenzene	10.	U
95-50-1-----	1,2-Dichlorobenzene	10.	U
95-48-7-----	2-Methylphenol	10.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	10.	U
106-44-5-----	4-Methylphenol	10.	U
621-64-7-----	N-Nitroso-di-n-propylamine	10.	U
67-72-1-----	Hexachloroethane	10.	U
98-95-3-----	Nitrobenzene	10.	U
78-59-1-----	Isophorone	10.	U
88-75-5-----	2-Nitrophenol	10.	U
105-67-9-----	2,4-Dimethylphenol	10.	U
111-91-1-----	bis(2-Chloroethoxy)methane	10.	U
120-83-2-----	2,4-Dichlorophenol	10.	U
120-82-1-----	1,2,4-Trichlorobenzene	10.	U
91-20-3-----	Naphthalene	10.	U
106-47-8-----	4-Chloroaniline	10.	U
87-68-3-----	Hexachlorobutadiene	10.	U
59-50-7-----	4-Chloro-3-methylphenol	2.	J
91-57-6-----	2-Methylnaphthalene	10.	U
77-47-4-----	Hexachlorocyclopentadiene	10.	U
88-06-2-----	2,4,6-Trichlorophenol	10.	U
95-95-4-----	2,4,5-Trichlorophenol	25.	U
91-58-7-----	2-Chloronaphthalene	10.	U
88-74-4-----	2-Nitroaniline	25.	U
131-11-3-----	Dimethylphthalate	10.	U
208-96-8-----	Acenaphthylene	10.	U
606-20-2-----	2,6-Dinitrotoluene	10.	U
99-09-2-----	3-Nitroaniline	25.	U
83-32-9-----	Acenaphthene	10.	U

FORM I SV-1

OLM03.0

0354

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR69

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) WATER

Lab Sample ID: 58072-001

Sample wt/vol: 1000.0 (g/ml) ML

Lab File ID: G1942

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: decanted: (Y/N)

Date Extracted: 1/15/98

Concentrated Extract Volume: 1000.0 (uL)

Date Analyzed: 1/19/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

51-28-5-----	2,4-Dinitrophenol	25.	U
100-02-7-----	4-Nitrophenol	25.	U
132-64-9-----	Dibenzofuran	10.	U
121-14-2-----	2,4-Dinitrotoluene	10.	U
84-66-2-----	Diethylphthalate	10.	U
7005-72-3-----	4-Chlorophenyl-phenylether	10.	U
86-73-7-----	Fluorene	10.	U
100-01-6-----	4-Nitroaniline	25.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10.	U
101-55-3-----	4-Bromophenyl-phenylether	10.	U
118-74-1-----	Hexachlorobenzene	10.	U
87-86-5-----	Pentachlorophenol	25.	U
85-01-8-----	Phenanthrene	10.	U
120-12-7-----	Anthracene	10.	U
86-74-8-----	Carbazole	10.	U
84-74-2-----	Di-n-butylphthalate	10.	U
206-44-0-----	Fluoranthene	10.	U
129-00-0-----	Pyrene	10.	U
85-68-7-----	Butylbenzylphthalate	10.	U
91-94-1-----	3,3'-Dichlorobenzidine	10.	U
56-55-3-----	Benzo(a)anthracene	10.	U
218-01-9-----	Chrysene	10.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10.	U
117-84-0-----	Di-n-octylphthalate	10.	U
205-99-2-----	Benzo(b)fluoranthene	10.	U
207-08-9-----	Benzo(k)fluoranthene	10.	U
50-32-8-----	Benzo(a)pyrene	10.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3-----	Dibenz(a,h)anthracene	10.	U
191-24-2-----	Benzo(g,h,i)perylene	10.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

0355

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CASE 25969
EPA SAMPLE NO. FFR72
SDG # 1 FFR69

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005

Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR69

Matrix: (soil/water) SOIL Lab Sample ID: 58072-003

Sample wt/vol: 1.0 (g/ml) G ✓ Lab File ID: G1977

Level: (low/med) MED ✓ Date Received: 1/15/98 ✓

% Moisture: 26 decanted: (Y/N) N Date Extracted: 1/21/98 ✓

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/26/98 ✓

Injection Volume: 2.0 (uL) Dilution Factor: 1.0 ✓

GPC Cleanup: (Y/N) Y pH: 7.9

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2-----	Phenol	✓ 14000.	U
111-44-4-----	bis(2-Chloroethyl)ether	14000.	U
95-57-8-----	2-Chlorophenol	14000.	U
541-73-1-----	1,3-Dichlorobenzene	14000.	U
106-46-7-----	1,4-Dichlorobenzene	14000.	U
95-50-1-----	1,2-Dichlorobenzene	14000.	U
95-48-7-----	2-Methylphenol	14000.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	14000.	U
106-44-5-----	4-Methylphenol	14000.	U
621-64-7-----	N-Nitroso-di-n-propylamine	14000.	U
67-72-1-----	Hexachloroethane	14000.	U
98-95-3-----	Nitrobenzene	14000.	U
78-59-1-----	Isophorone	14000.	U
88-75-5-----	2-Nitrophenol	14000.	U
105-67-9-----	2,4-Dimethylphenol	14000.	U
111-91-1-----	bis(2-Chloroethoxy)methane	14000.	U
120-83-2-----	2,4-Dichlorophenol	14000.	U
120-82-1-----	1,2,4-Trichlorobenzene	14000.	U
91-20-3-----	Naphthalene	14000.	U
106-47-8-----	4-Chloroaniline	14000.	U
87-68-3-----	Hexachlorobutadiene	14000.	U
59-50-7-----	4-Chloro-3-methylphenol	14000.	U
91-57-6-----	2-Methylnaphthalene	14000.	U
77-47-4-----	Hexachlorocyclopentadiene	14000.	U
88-06-2-----	2,4,6-Trichlorophenol	14000.	U
95-95-4-----	2,4,5-Trichlorophenol	34000.	U
91-58-7-----	2-Chloronaphthalene	14000.	U
88-74-4-----	2-Nitroaniline	34000.	U
131-11-3-----	Dimethylphthalate	14000.	U
208-96-8-----	Acenaphthylene	14000.	U
606-20-2-----	2,6-Dinitrotoluene	14000.	U
99-09-2-----	3-Nitroaniline	34000.	U
83-32-9-----	Acenaphthene	14000.	U

FORM I SV-1

OLM03.0

0365

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR72

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR69
Matrix: (soil/water) SOIL Lab Sample ID: 58072-003
Sample wt/vol: 1.0 (g/ml) G Lab File ID: G1977
Level: (low/med) MED Date Received: 1/15/98
% Moisture: 26 decanted: (Y/N) N Date Extracted: 1/21/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/26/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 7.9

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	34000.	U
100-02-7-----	4-Nitrophenol	34000.	U
132-64-9-----	Dibenzofuran	14000.	U
121-14-2-----	2,4-Dinitrotoluene	14000.	U
84-66-2-----	Diethylphthalate	14000.	U
7005-72-3-----	4-Chlorophenyl-phenylether	14000.	U
86-73-7-----	Fluorene	14000.	U
100-01-6-----	4-Nitroaniline	34000.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	34000.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	14000.	U
101-55-3-----	4-Bromophenyl-phenylether	14000.	U
118-74-1-----	Hexachlorobenzene	15000.	U
87-86-5-----	Pentachlorophenol	34000.	U
85-01-8-----	Phenanthrene	14000.	U
120-12-7-----	Anthracene	14000.	U
86-74-8-----	Carbazole	14000.	U
84-74-2-----	Di-n-butylphthalate	14000.	U
206-44-0-----	Fluoranthene	14000.	U
129-00-0-----	Pyrene	14000.	U
85-68-7-----	Butylbenzylphthalate	14000.	U
91-94-1-----	3,3'-Dichlorobenzidine	14000.	U
56-55-3-----	Benzo(a)anthracene	14000.	U
218-01-9-----	Chrysene	14000.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	900.	JB
117-84-0-----	Di-n-octylphthalate	14000.	U
205-99-2-----	Benzo(b)fluoranthene	14000.	U
207-08-9-----	Benzo(k)fluoranthene	14000.	U
50-32-8-----	Benzo(a)pyrene	14000.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	14000.	U
53-70-3-----	Dibenz(a,h)anthracene	14000.	U
191-24-2-----	Benzo(g,h,i)perylene	14000.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

0366

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR73

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-004

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G1996

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: 26 decanted: (Y/N) N

Date Extracted: 1/20/98

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/27/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	✓ 440.	U
111-44-4-----	bis(2-Chloroethyl)ether	440.	U
95-57-8-----	2-Chlorophenol	440.	U
541-73-1-----	1,3-Dichlorobenzene	440.	U
106-46-7-----	1,4-Dichlorobenzene	440.	U
95-50-1-----	1,2-Dichlorobenzene	440.	U
95-48-7-----	2-Methylphenol	440.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	440.	U
106-44-5-----	4-Methylphenol	440.	U
621-64-7-----	N-Nitroso-di-n-propylamine	440.	U
67-72-1-----	Hexachloroethane	440.	U
98-95-3-----	Nitrobenzene	440.	U
78-59-1-----	Isophorone	440.	U
88-75-5-----	2-Nitrophenol	440.	U
105-67-9-----	2,4-Dimethylphenol	440.	U
111-91-1-----	bis(2-Chloroethoxy)methane	440.	U
120-83-2-----	2,4-Dichlorophenol	440.	U
120-82-1-----	1,2,4-Trichlorobenzene	440.	U
91-20-3-----	Naphthalene	440.	U
106-47-8-----	4-Chloroaniline	440.	U
87-68-3-----	Hexachlorobutadiene	440.	U
59-50-7-----	4-Chloro-3-methylphenol	440.	U
91-57-6-----	2-Methylnaphthalene	440.	U
77-47-4-----	Hexachlorocyclopentadiene	440.	U
88-06-2-----	2,4,6-Trichlorophenol	440.	U
95-95-4-----	2,4,5-Trichlorophenol	1100.	U
91-58-7-----	2-Chloronaphthalene	440.	U
88-74-4-----	2-Nitroaniline	1100.	U
131-11-3-----	Dimethylphthalate	440.	U
208-96-8-----	Acenaphthylene	440.	U
606-20-2-----	2,6-Dinitrotoluene	440.	U
99-09-2-----	3-Nitroaniline	1100.	U
83-32-9-----	Acenaphthene	440.	U

FORM I SV-1

OLM03.0
0408

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR73

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR69
Matrix: (soil/water) SOIL Lab Sample ID: 58072-004
Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1996
Level: (low/med) LOW Date Received: 1/15/98
% Moisture: 26 decanted: (Y/N) N Date Extracted: 1/20/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/27/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 7.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5-----	2,4-Dinitrophenol	1100.	U
100-02-7-----	4-Nitrophenol	1100.	U
132-64-9-----	Dibenzofuran	440.	U
121-14-2-----	2,4-Dinitrotoluene	440.	U
84-66-2-----	Diethylphthalate	440.	U
7005-72-3-----	4-Chlorophenyl-phenylether	440.	U
86-73-7-----	Fluorene	440.	U
100-01-6-----	4-Nitroaniline	1100.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1100.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	440.	U
101-55-3-----	4-Bromophenyl-phenylether	440.	U
118-74-1-----	Hexachlorobenzene	440.	U
87-86-5-----	Pentachlorophenol	1100.	U
85-01-8-----	Phenanthrene	440.	U
120-12-7-----	Anthracene	440.	U
86-74-8-----	Carbazole	440.	U
84-74-2-----	Di-n-butylphthalate	440.	U
206-44-0-----	Fluoranthene	38.	J
129-00-0-----	Pyrene	48.	J
85-68-7-----	Butylbenzylphthalate	440.	U
91-94-1-----	3,3'-Dichlorobenzidine	440.	U
56-55-3-----	Benzo(a)anthracene	39.	J
218-01-9-----	Chrysene	62.	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	✓ 260.	JB
117-84-0-----	Di-n-octylphthalate	31.	J
205-99-2-----	Benzo(b)fluoranthene	74.	J
207-08-9-----	Benzo(k)fluoranthene	66.	J
50-32-8-----	Benzo(a)pyrene	50.	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	46.	J
53-70-3-----	Dibenz(a,h)anthracene	440.	U
191-24-2-----	Benzo(g,h,i)perylene	44.	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

0409

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR74

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) WATER

Lab Sample ID:58072-012

Sample wt/vol: 1000.0 (g/ml) ML

Lab File ID: G1943

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: decanted: (Y/N)

Date Extracted: 1/15/98

Concentrated Extract Volume: 1000.0 (uL)

Date Analyzed: 1/19/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 6.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

108-95-2-----	Phenol	10.	U
111-44-4-----	bis(2-Chloroethyl) ether	10.	U
95-57-8-----	2-Chlorophenol	10.	U
541-73-1-----	1,3-Dichlorobenzene	10.	U
106-46-7-----	1,4-Dichlorobenzene	10.	U
95-50-1-----	1,2-Dichlorobenzene	10.	U
95-48-7-----	2-Methylphenol	10.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	10.	U
106-44-5-----	4-Methylphenol	10.	U
621-64-7-----	N-Nitroso-di-n-propylamine	10.	U
67-72-1-----	Hexachloroethane	10.	U
98-95-3-----	Nitrobenzene	10.	U
78-59-1-----	Isophorone	10.	U
88-75-5-----	2-Nitrophenol	10.	U
105-67-9-----	2,4-Dimethylphenol	10.	U
111-91-1-----	bis(2-Chloroethoxy)methane	10.	U
120-83-2-----	2,4-Dichlorophenol	10.	U
120-82-1-----	1,2,4-Trichlorobenzene	10.	U
91-20-3-----	Naphthalene	10.	U
106-47-8-----	4-Chloroaniline	10.	U
87-68-3-----	Hexachlorobutadiene	10.	U
59-50-7-----	4-Chloro-3-methylphenol	5.	J
91-57-6-----	2-Methylnaphthalene	10.	U
77-47-4-----	Hexachlorocyclopentadiene	10.	U
88-06-2-----	2,4,6-Trichlorophenol	10.	U
95-95-4-----	2,4,5-Trichlorophenol	25.	U
91-58-7-----	2-Chloronaphthalene	10.	U
88-74-4-----	2-Nitroaniline	25.	U
131-11-3-----	Dimethylphthalate	10.	U
208-96-8-----	Acenaphthylene	10.	U
606-20-2-----	2,6-Dinitrotoluene	10.	U
99-09-2-----	3-Nitroaniline	25.	U
83-32-9-----	Acenaphthene	10.	U

FORM I SV-1

OLM03.0

0474

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR74

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) WATER

Lab Sample ID:58072-012

Sample wt/vol: 1000.0 (g/ml) ML

Lab File ID: G1943

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: decanted: (Y/N)

Date Extracted: 1/15/98

Concentrated Extract Volume: 1000.0 (uL)

Date Analyzed: 1/19/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 6.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

51-28-5-----	2,4-Dinitrophenol	25.	U
100-02-7-----	4-Nitrophenol	25.	U
132-64-9-----	Dibenzofuran	10.	U
121-14-2-----	2,4-Dinitrotoluene	10.	U
84-66-2-----	Diethylphthalate	0.5	J
7005-72-3-----	4-Chlorophenyl-phenylether	10.	U
86-73-7-----	Fluorene	10.	U
100-01-6-----	4-Nitroaniline	25.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	25.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10.	U
101-55-3-----	4-Bromophenyl-phenylether	10.	U
118-74-1-----	Hexachlorobenzene	10.	U
87-86-5-----	Pentachlorophenol	25.	U
85-01-8-----	Phenanthrene	10.	U
120-12-7-----	Anthracene	10.	U
86-74-8-----	Carbazole	10.	U
84-74-2-----	Di-n-butylphthalate	10.	U
206-44-0-----	Fluoranthene	10.	U
129-00-0-----	Pyrene	10.	U
85-68-7-----	Butylbenzylphthalate	10.	U
91-94-1-----	3,3'-Dichlorobenzidine	10.	U
56-55-3-----	Benzo(a)anthracene	10.	U
218-01-9-----	Chrysene	10.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10.	U
117-84-0-----	Di-n-octylphthalate	10.	U
205-99-2-----	Benzo(b)fluoranthene	10.	U
207-08-9-----	Benzo(k)fluoranthene	10.	U
50-32-8-----	Benzo(a)pyrene	10.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3-----	Dibenz(a,h)anthracene	10.	U
191-24-2-----	Benzo(g,h,i)perylene	10.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

0475

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR75

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-013

Sample wt/vol: 1.0 (g/ml) G

Lab File ID: G1983

Level: (low/med) MED

Date Received: 1/15/98

% Moisture: 26 decanted: (Y/N) N

Date Extracted: 1/21/98

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/26/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

108-95-2-----	Phenol	✓ 14000.	U
111-44-4-----	bis(2-Chloroethyl)ether	14000.	U
95-57-8-----	2-Chlorophenol	14000.	U
541-73-1-----	1,3-Dichlorobenzene	14000.	U
106-46-7-----	1,4-Dichlorobenzene	14000.	U
95-50-1-----	1,2-Dichlorobenzene	14000.	U
95-48-7-----	2-Methylphenol	14000.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	14000.	U
106-44-5-----	4-Methylphenol	14000.	U
621-64-7-----	N-Nitroso-di-n-propylamine	14000.	U
67-72-1-----	Hexachloroethane	14000.	U
98-95-3-----	Nitrobenzene	14000.	U
78-59-1-----	Isophorone	14000.	U
88-75-5-----	2-Nitrophenol	14000.	U
105-67-9-----	2,4-Dimethylphenol	14000.	U
111-91-1-----	bis(2-Chloroethoxy)methane	14000.	U
120-83-2-----	2,4-Dichlorophenol	14000.	U
120-82-1-----	1,2,4-Trichlorobenzene	14000.	U
91-20-3-----	Naphthalene	14000.	U
106-47-8-----	4-Chloroaniline	14000.	U
87-68-3-----	Hexachlorobutadiene	14000.	U
59-50-7-----	4-Chloro-3-methylphenol	14000.	U
91-57-6-----	2-Methylnaphthalene	14000.	U
77-47-4-----	Hexachlorocyclopentadiene	14000.	U
88-06-2-----	2,4,6-Trichlorophenol	14000.	U
95-95-4-----	2,4,5-Trichlorophenol	34000.	U
91-58-7-----	2-Chloronaphthalene	14000.	U
88-74-4-----	2-Nitroaniline	34000.	U
131-11-3-----	Dimethylphthalate	14000.	U
208-96-8-----	Acenaphthylene	14000.	U
606-20-2-----	2,6-Dinitrotoluene	14000.	U
99-09-2-----	3-Nitroaniline	34000.	U
83-32-9-----	Acenaphthene	14000.	U

FORM I SV-1

OLM03.0

0486

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR75

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005

Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR69

Matrix: (soil/water) SOIL Lab Sample ID: 58072-013

Sample wt/vol: 1.0 (g/ml) G Lab File ID: G1983

Level: (low/med) MED Date Received: 1/15/98

% Moisture: 26 decanted: (Y/N) N Date Extracted: 1/21/98

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/26/98

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	34000.	U
100-02-7-----	4-Nitrophenol	34000.	U
132-64-9-----	Dibenzofuran	14000.	U
121-14-2-----	2,4-Dinitrotoluene	14000.	U
84-66-2-----	Diethylphthalate	810.	J
7005-72-3-----	4-Chlorophenyl-phenylether	14000.	U
86-73-7-----	Fluorene	14000.	U
100-01-6-----	4-Nitroaniline	34000.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	34000.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	14000.	U
101-55-3-----	4-Bromophenyl-phenylether	14000.	U
118-74-1-----	Hexachlorobenzene	14000.	U
87-86-5-----	Pentachlorophenol	34000.	U
85-01-8-----	Phenanthrene	14000.	U
120-12-7-----	Anthracene	14000.	U
86-74-8-----	Carbazole	14000.	U
84-74-2-----	Di-n-butylphthalate	14000.	U
206-44-0-----	Fluoranthene	14000.	U
129-00-0-----	Pyrene	14000.	U
85-68-7-----	Butylbenzylphthalate	14000.	U
91-94-1-----	3,3'-Dichlorobenzidine	14000.	U
56-55-3-----	Benzo(a)anthracene	14000.	U
218-01-9-----	Chrysene	14000.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	2400.	JB
117-84-0-----	Di-n-octylphthalate	14000.	U
205-99-2-----	Benzo(b)fluoranthene	14000.	U
207-08-9-----	Benzo(k)fluoranthene	14000.	U
50-32-8-----	Benzo(a)pyrene	14000.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	14000.	U
53-70-3-----	Dibenz(a,h)anthracene	14000.	U
191-24-2-----	Benzo(g,h,i)perylene	14000.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

0487

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR77

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-005

Sample wt/vol: 1.0 (g/ml) G /

Lab File ID: G1978

Level: (low/med) MED /

Date Received: 1/15/98 /

% Moisture: 22 decanted: (Y/N) N

Date Extracted: 1/23/98 /

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/26/98 /

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

108-95-2-----	Phenol	✓13000.	U
111-44-4-----	bis(2-Chloroethyl) ether	13000.	U
95-57-8-----	2-Chlorophenol	13000.	U
541-73-1-----	1,3-Dichlorobenzene	13000.	U
106-46-7-----	1,4-Dichlorobenzene	13000.	U
95-50-1-----	1,2-Dichlorobenzene	13000.	U
95-48-7-----	2-Methylphenol	13000.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	13000.	U
106-44-5-----	4-Methylphenol	13000.	U
621-64-7-----	N-Nitroso-di-n-propylamine	13000.	U
67-72-1-----	Hexachloroethane	13000.	U
98-95-3-----	Nitrobenzene	13000.	U
78-59-1-----	Isophorone	13000.	U
88-75-5-----	2-Nitrophenol	13000.	U
105-67-9-----	2,4-Dimethylphenol	13000.	U
111-91-1-----	bis(2-Chloroethoxy) methane	13000.	U
120-83-2-----	2,4-Dichlorophenol	13000.	U
120-82-1-----	1,2,4-Trichlorobenzene	13000.	U
91-20-3-----	Naphthalene	13000.	U
106-47-8-----	4-Chloroaniline	13000.	U
87-68-3-----	Hexachlorobutadiene	13000.	U
59-50-7-----	4-Chloro-3-methylphenol	13000.	U
91-57-6-----	2-Methylnaphthalene	13000.	U
77-47-4-----	Hexachlorocyclopentadiene	13000.	U
88-06-2-----	2,4,6-Trichlorophenol	13000.	U
95-95-4-----	2,4,5-Trichlorophenol	32000.	U
91-58-7-----	2-Chloronaphthalene	13000.	U
88-74-4-----	2-Nitroaniline	32000.	U
131-11-3-----	Dimethylphthalate	13000.	U
208-96-8-----	Acenaphthylene	13000.	U
606-20-2-----	2,6-Dinitrotoluene	13000.	U
99-09-2-----	3-Nitroaniline	32000.	U
83-32-9-----	Acenaphthene	13000.	U

FORM I SV-1

OLM03.0
0530

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR77

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR69
Matrix: (soil/water) SOIL Lab Sample ID: 58072-005
Sample wt/vol: 1.0 (g/ml) G Lab File ID: G1978
Level: (low/med) MED Date Received: 1/15/98
% Moisture: 22 decanted: (Y/N) N Date Extracted: 1/23/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/26/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 8.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5	2,4-Dinitrophenol	32000.	U
100-02-7	4-Nitrophenol	32000.	U
132-64-9	Dibenzofuran	13000.	U
121-14-2	2,4-Dinitrotoluene	13000.	U
84-66-2	Diethylphthalate	13000.	U
7005-72-3	4-Chlorophenyl-phenylether	13000.	U
86-73-7	Fluorene	13000.	U
100-01-6	4-Nitroaniline	32000.	U
534-52-1	4,6-Dinitro-2-methylphenol	32000.	U
86-30-6	N-Nitrosodiphenylamine (1)	13000.	U
101-55-3	4-Bromophenyl-phenylether	13000.	U
118-74-1	Hexachlorobenzene	13000.	U
87-86-5	Pentachlorophenol	32000.	U
85-01-8	Phenanthrene	1400.	J
120-12-7	Anthracene	13000.	U
86-74-8	Carbazole	13000.	U
84-74-2	Di-n-butylphthalate	13000.	U
206-44-0	Fluoranthene	13000.	U
129-00-0	Pyrene	13000.	U
85-68-7	Butylbenzylphthalate	13000.	U
91-94-1	3,3'-Dichlorobenzidine	13000.	U
56-55-3	Benzo(a)anthracene	13000.	U
218-01-9	Chrysene	13000.	U
117-81-7	bis(2-Ethylhexyl)phthalate	950.	J
117-84-0	Di-n-octylphthalate	13000.	U
205-99-2	Benzo(b)fluoranthene	13000.	U
207-08-9	Benzo(k)fluoranthene	13000.	U
50-32-8	Benzo(a)pyrene	13000.	U
193-39-5	Indeno(1,2,3-cd)pyrene	13000.	U
53-70-3	Dibenz(a,h)anthracene	13000.	U
191-24-2	Benzo(g,h,i)perylene	13000.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

0531

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR78

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-006

Sample wt/vol: 30.0 (g/ml) G /

Lab File ID: G1997

Level: (low/med) LOW /

Date Received: 1/15/98 /

% Moisture: 26 decanted: (Y/N) N

Date Extracted: 1/20/98 /

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/27/98 /

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0 /

GPC Cleanup: (Y/N) Y

pH: 7.7

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	✓ 440.	U
111-44-4-----	bis(2-Chloroethyl)ether	440.	U
95-57-8-----	2-Chlorophenol	440.	U
541-73-1-----	1,3-Dichlorobenzene	440.	U
106-46-7-----	1,4-Dichlorobenzene	440.	U
95-50-1-----	1,2-Dichlorobenzene	440.	U
95-48-7-----	2-Methylphenol	440.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	440.	U
106-44-5-----	4-Methylphenol	440.	U
621-64-7-----	N-Nitroso-di-n-propylamine	440.	U
67-72-1-----	Hexachloroethane	440.	U
98-95-3-----	Nitrobenzene	440.	U
78-59-1-----	Isophorone	440.	U
88-75-5-----	2-Nitrophenol	440.	U
105-67-9-----	2,4-Dimethylphenol	440.	U
111-91-1-----	bis(2-Chloroethoxy)methane	440.	U
120-83-2-----	2,4-Dichlorophenol	440.	U
120-82-1-----	1,2,4-Trichlorobenzene	440.	U
91-20-3-----	Naphthalene	440.	U
106-47-8-----	4-Chloroaniline	440.	U
87-68-3-----	Hexachlorobutadiene	440.	U
59-50-7-----	4-Chloro-3-methylphenol	440.	U
91-57-6-----	2-Methylnaphthalene	440.	U
77-47-4-----	Hexachlorocyclopentadiene	440.	U
88-06-2-----	2,4,6-Trichlorophenol	440.	U
95-95-4-----	2,4,5-Trichlorophenol	1100.	U
91-58-7-----	2-Chloronaphthalene	440.	U
88-74-4-----	2-Nitroaniline	1100.	U
131-11-3-----	Dimethylphthalate	440.	U
208-96-8-----	Acenaphthylene	440.	U
606-20-2-----	2,6-Dinitrotoluene	440.	U
99-09-2-----	3-Nitroaniline	1100.	U
83-32-9-----	Acenaphthene	440.	U

FORM I SV-1

OLM03.0

0578

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR78

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-006

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G1997

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: 26 decanted: (Y/N) N

Date Extracted: 1/20/98

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/27/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

51-28-5-----	2,4-Dinitrophenol	1100.	U
100-02-7-----	4-Nitrophenol	1100.	U
132-64-9-----	Dibenzofuran	440.	U
121-14-2-----	2,4-Dinitrotoluene	440.	U
84-66-2-----	Diethylphthalate	440.	U
7005-72-3-----	4-Chlorophenyl-phenylether	440.	U
86-73-7-----	Fluorene	440.	U
100-01-6-----	4-Nitroaniline	1100.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1100.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	440.	U
101-55-3-----	4-Bromophenyl-phenylether	440.	U
118-74-1-----	Hexachlorobenzene	440.	U
87-86-5-----	Pentachlorophenol	1100.	U
85-01-8-----	Phenanthrene	440.	U
120-12-7-----	Anthracene	440.	U
86-74-8-----	Carbazole	440.	U
84-74-2-----	Di-n-butylphthalate	440.	U
206-44-0-----	Fluoranthene	28.	J
129-00-0-----	Pyrene	27.	J
85-68-7-----	Butylbenzylphthalate	440.	U
91-94-1-----	3,3'-Dichlorobenzidine	440.	U
56-55-3-----	Benzo(a)anthracene	440.	U
218-01-9-----	Chrysene	24.	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	140.	JB
117-84-0-----	Di-n-octylphthalate	440.	U
205-99-2-----	Benzo(b)fluoranthene	28.	J
207-08-9-----	Benzo(k)fluoranthene	25.	J
50-32-8-----	Benzo(a)pyrene	440.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	440.	U
53-70-3-----	Dibenz(a,h)anthracene	440.	U
191-24-2-----	Benzo(g,h,i)perylene	440.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

0579

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR79

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-007

Sample wt/vol: 1.0 (g/ml) G /

Lab File ID: G1979

Level: (low/med) MED /

Date Received: 1/15/98 /

% Moisture: 22 decanted: (Y/N) N

Date Extracted: 1/21/98 /

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/26/98 /

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

108-95-2-----Phenol	✓ 13000.	U
111-44-4-----bis(2-Chloroethyl)ether	13000.	U
95-57-8-----2-Chlorophenol	13000.	U
541-73-1-----1,3-Dichlorobenzene	13000.	U
106-46-7-----1,4-Dichlorobenzene	13000.	U
95-50-1-----1,2-Dichlorobenzene	13000.	U
95-48-7-----2-Methylphenol	13000.	U
108-60-1-----2,2'-oxybis(1-Chloropropane)	13000.	U
106-44-5-----4-Methylphenol	13000.	U
621-64-7-----N-Nitroso-di-n-propylamine	13000.	U
67-72-1-----Hexachloroethane	13000.	U
98-95-3-----Nitrobenzene	13000.	U
78-59-1-----Isophorone	13000.	U
88-75-5-----2-Nitrophenol	13000.	U
105-67-9-----2,4-Dimethylphenol	13000.	U
111-91-1-----bis(2-Chloroethoxy)methane	13000.	U
120-83-2-----2,4-Dichlorophenol	13000.	U
120-82-1-----1,2,4-Trichlorobenzene	13000.	U
91-20-3-----Naphthalene	13000.	U
106-47-8-----4-Chloroaniline	13000.	U
87-68-3-----Hexachlorobutadiene	13000.	U
59-50-7-----4-Chloro-3-methylphenol	13000.	U
91-57-6-----2-Methylnaphthalene	13000.	U
77-47-4-----Hexachlorocyclopentadiene	13000.	U
88-06-2-----2,4,6-Trichlorophenol	13000.	U
95-95-4-----2,4,5-Trichlorophenol	32000.	U
91-58-7-----2-Chloronaphthalene	13000.	U
88-74-4-----2-Nitroaniline	32000.	U
131-11-3-----Dimethylphthalate	13000.	U
208-96-8-----Acenaphthylene	13000.	U
606-20-2-----2,6-Dinitrotoluene	13000.	U
99-09-2-----3-Nitroaniline	32000.	U
83-32-9-----Acenaphthene	13000.	U

FORM I SV-1

OLM03.0

0639

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR79

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005

Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR69

Matrix: (soil/water) SOIL Lab Sample ID: 58072-007

Sample wt/vol: 1.0 (g/ml) G Lab File ID: G1979

Level: (low/med) MED Date Received: 1/15/98

% Moisture: 22 decanted: (Y/N) N Date Extracted: 1/21/98

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/26/98

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5-----	2,4-Dinitrophenol	32000.	U
100-02-7-----	4-Nitrophenol	32000.	U
132-64-9-----	Dibenzofuran	13000.	U
121-14-2-----	2,4-Dinitrotoluene	13000.	U
84-66-2-----	Diethylphthalate	13000.	U
7005-72-3-----	4-Chlorophenyl-phenylether	13000.	U
86-73-7-----	Fluorene	13000.	U
100-01-6-----	4-Nitroaniline	32000.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	32000.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	13000.	U
101-55-3-----	4-Bromophenyl-phenylether	13000.	U
118-74-1-----	Hexachlorobenzene	13000.	U
87-86-5-----	Pentachlorophenol	32000.	U
85-01-8-----	Phenanthrene	13000.	U
120-12-7-----	Anthracene	13000.	U
86-74-8-----	Carbazole	13000.	U
84-74-2-----	Di-n-butylphthalate	13000.	U
206-44-0-----	Fluoranthene	13000.	U
129-00-0-----	Pyrene	13000.	U
85-68-7-----	Butylbenzylphthalate	13000.	U
91-94-1-----	3,3'-Dichlorobenzidine	13000.	U
56-55-3-----	Benzo(a)anthracene	13000.	U
218-01-9-----	Chrysene	13000.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	1100.	JB
117-84-0-----	Di-n-octylphthalate	13000.	U
205-99-2-----	Benzo(b)fluoranthene	13000.	U
207-08-9-----	Benzo(k)fluoranthene	13000.	U
50-32-8-----	Benzo(a)pyrene	13000.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	13000.	U
53-70-3-----	Dibenz(a,h)anthracene	13000.	U
191-24-2-----	Benzo(g,h,i)perylene	13000.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0
0640

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR80

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN Case No.: 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-009

Sample wt/vol: 1.0 (g/ml) G

Lab File ID: G1982

Level: (low/med) MED

Date Received: 1/15/98

% Moisture: 28 decanted: (Y/N) N

Date Extracted: 1/21/98

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/26/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	✓ 14000.	U
111-44-4-----	bis(2-Chloroethyl)ether	14000.	U
95-57-8-----	2-Chlorophenol	14000.	U
541-73-1-----	1,3-Dichlorobenzene	14000.	U
106-46-7-----	1,4-Dichlorobenzene	14000.	U
95-50-1-----	1,2-Dichlorobenzene	14000.	U
95-48-7-----	2-Methylphenol	14000.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	14000.	U
106-44-5-----	4-Methylphenol	14000.	U
621-64-7-----	N-Nitroso-di-n-propylamine	14000.	U
67-72-1-----	Hexachloroethane	14000.	U
98-95-3-----	Nitrobenzene	14000.	U
78-59-1-----	Isophorone	14000.	U
88-75-5-----	2-Nitrophenol	14000.	U
105-67-9-----	2,4-Dimethylphenol	14000.	U
111-91-1-----	bis(2-Chloroethoxy)methane	14000.	U
120-83-2-----	2,4-Dichlorophenol	14000.	U
120-82-1-----	1,2,4-Trichlorobenzene	14000.	U
91-20-3-----	Naphthalene	14000.	U
106-47-8-----	4-Chloroaniline	14000.	U
87-68-3-----	Hexachlorobutadiene	14000.	U
59-50-7-----	4-Chloro-3-methylphenol	14000.	U
91-57-6-----	2-Methylnaphthalene	14000.	U
77-47-4-----	Hexachlorocyclopentadiene	14000.	U
88-06-2-----	2,4,6-Trichlorophenol	14000.	U
95-95-4-----	2,4,5-Trichlorophenol	35000.	U
91-58-7-----	2-Chloronaphthalene	14000.	U
88-74-4-----	2-Nitroaniline	35000.	U
131-11-3-----	Dimethylphthalate	14000.	U
208-96-8-----	Acenaphthylene	14000.	U
606-20-2-----	2,6-Dinitrotoluene	14000.	U
99-09-2-----	3-Nitroaniline	35000.	U
83-32-9-----	Acenaphthene	14000.	U

FORM I SV-1

0665

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR80

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-009

Sample wt/vol: 1.0 (g/ml) G

Lab File ID: G1982

Level: (low/med) MED

Date Received: 1/15/98

% Moisture: 28 decanted: (Y/N) N

Date Extracted: 1/21/98

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/26/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

51-28-5-----	2,4-Dinitrophenol	35000.	U
100-02-7-----	4-Nitrophenol	35000.	U
132-64-9-----	Dibenzofuran	14000.	U
121-14-2-----	2,4-Dinitrotoluene	14000.	U
84-66-2-----	Diethylphthalate	14000.	U
7005-72-3-----	4-Chlorophenyl-phenylether	14000.	U
86-73-7-----	Fluorene	14000.	U
100-01-6-----	4-Nitroaniline	35000.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	35000.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	14000.	U
101-55-3-----	4-Bromophenyl-phenylether	14000.	U
118-74-1-----	Hexachlorobenzene	14000.	U
87-86-5-----	Pentachlorophenol	35000.	U
85-01-8-----	Phenanthrene	14000.	U
120-12-7-----	Anthracene	14000.	U
86-74-8-----	Carbazole	14000.	U
84-74-2-----	Di-n-butylphthalate	14000.	U
206-44-0-----	Fluoranthene	14000.	U
129-00-0-----	Pyrene	14000.	U
85-68-7-----	Butylbenzylphthalate	14000.	U
91-94-1-----	3,3'-Dichlorobenzidine	14000.	U
56-55-3-----	Benzo(a)anthracene	14000.	U
218-01-9-----	Chrysene	14000.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	940.	JB
117-84-0-----	Di-n-octylphthalate	14000.	U
205-99-2-----	Benzo(b)fluoranthene	14000.	U
207-08-9-----	Benzo(k)fluoranthene	14000.	U
50-32-8-----	Benzo(a)pyrene	14000.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	14000.	U
53-70-3-----	Dibenz(a,h)anthracene	14000.	U
191-24-2-----	Benzo(g,h,i)perylene	14000.	U

(1) - Cannot be separated from Diphenylamine

0666

FORM I SV-2

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR84

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-010

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G2001

Level: (low/med) LOW

Date Received: 1/15/98 /

% Moisture: 24 decanted: (Y/N) N

Date Extracted: 1/20/98 /

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/27/98 /

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 8.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

108-95-2-----Phenol	✓ 430.	U
111-44-4-----bis(2-Chloroethyl)ether	430.	U
95-57-8-----2-Chlorophenol	430.	U
541-73-1-----1,3-Dichlorobenzene	430.	U
106-46-7-----1,4-Dichlorobenzene	430.	U
95-50-1-----1,2-Dichlorobenzene	430.	U
95-48-7-----2-Methylphenol	430.	U
108-60-1-----2,2'-oxybis(1-Chloropropane)	430.	U
106-44-5-----4-Methylphenol	430.	U
621-64-7-----N-Nitroso-di-n-propylamine	430.	U
67-72-1-----Hexachloroethane	430.	U
98-95-3-----Nitrobenzene	430.	U
78-59-1-----Isophorone	430.	U
88-75-5-----2-Nitrophenol	430.	U
105-67-9-----2,4-Dimethylphenol	430.	U
111-91-1-----bis(2-Chloroethoxy)methane	430.	U
120-83-2-----2,4-Dichlorophenol	430.	U
120-82-1-----1,2,4-Trichlorobenzene	430.	U
91-20-3-----Naphthalene	430.	U
106-47-8-----4-Chloroaniline	430.	U
87-68-3-----Hexachlorobutadiene	430.	U
59-50-7-----4-Chloro-3-methylphenol	430.	U
91-57-6-----2-Methylnaphthalene	430.	U
77-47-4-----Hexachlorocyclopentadiene	430.	U
88-06-2-----2,4,6-Trichlorophenol	430.	U
95-95-4-----2,4,5-Trichlorophenol	1100.	U
91-58-7-----2-Chloronaphthalene	430.	U
88-74-4-----2-Nitroaniline	1100.	U
131-11-3-----Dimethylphthalate	430.	U
208-96-8-----Acenaphthylene	430.	U
606-20-2-----2,6-Dinitrotoluene	430.	U
99-09-2-----3-Nitroaniline	1100.	U
83-32-9-----Acenaphthene	430.	U

FORM I SV-1

OLM03.0

0708

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR84

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR69
Matrix: (soil/water) SOIL Lab Sample ID: 58072-010
Sample wt/vol: 30.0 (g/ml) G Lab File ID: G2001
Level: (low/med) LOW Date Received: 1/15/98
% Moisture: 24 decanted: (Y/N) N Date Extracted: 1/20/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/27/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 8.1

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	1100.	U
100-02-7-----	4-Nitrophenol	1100.	U
132-64-9-----	Dibenzofuran	430.	U
121-14-2-----	2,4-Dinitrotoluene	430.	U
84-66-2-----	Diethylphthalate	430.	U
7005-72-3-----	4-Chlorophenyl-phenylether	430.	U
86-73-7-----	Fluorene	430.	U
100-01-6-----	4-Nitroaniline	1100.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1100.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	430.	U
101-55-3-----	4-Bromophenyl-phenylether	430.	U
118-74-1-----	Hexachlorobenzene	430.	U
87-86-5-----	Pentachlorophenol	1100.	U
85-01-8-----	Phenanthrene	160.	J
120-12-7-----	Anthracene	430.	U
86-74-8-----	Carbazole	430.	U
84-74-2-----	Di-n-butylphthalate	430.	U
206-44-0-----	Fluoranthene	390.	J
129-00-0-----	Pyrene	330.	J
85-68-7-----	Butylbenzylphthalate	430.	U
91-94-1-----	3,3'-Dichlorobenzidine	430.	U
56-55-3-----	Benzo(a)anthracene	140.	J
218-01-9-----	Chrysene	210.	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	78.	JB
117-84-0-----	Di-n-octylphthalate	32.	J
205-99-2-----	Benzo(b)fluoranthene	190.	J
207-08-9-----	Benzo(k)fluoranthene	170.	J
50-32-8-----	Benzo(a)pyrene	170.	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	140.	J
53-70-3-----	Dibenz(a,h)anthracene	430.	U
191-24-2-----	Benzo(g,h,i)perylene	120.	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

0709

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR88

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR69

Matrix: (soil/water) SOIL

Lab Sample ID:58072-008

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G1998 /

Level: (low/med) LOW

Date Received: 1/15/98 /

% Moisture: 27 decanted: (Y/N) N

Date Extracted: 1/23/98 /

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/27/98 /

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.8

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

108-95-2-----	Phenol	450.	U
111-44-4-----	bis(2-Chloroethyl)ether	450.	U
95-57-8-----	2-Chlorophenol	450.	U
541-73-1-----	1,3-Dichlorobenzene	450.	U
106-46-7-----	1,4-Dichlorobenzene	450.	U
95-50-1-----	1,2-Dichlorobenzene	450.	U
95-48-7-----	2-Methylphenol	450.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	450.	U
106-44-5-----	4-Methylphenol	450.	U
621-64-7-----	N-Nitroso-di-n-propylamine	450.	U
67-72-1-----	Hexachloroethane	450.	U
98-95-3-----	Nitrobenzene	450.	U
78-59-1-----	Isophorone	450.	U
88-75-5-----	2-Nitrophenol	450.	U
105-67-9-----	2,4-Dimethylphenol	450.	U
111-91-1-----	bis(2-Chloroethoxy)methane	450.	U
120-83-2-----	2,4-Dichlorophenol	450.	U
120-82-1-----	1,2,4-Trichlorobenzene	450.	U
91-20-3-----	Naphthalene	450.	U
106-47-8-----	4-Chloroaniline	450.	U
87-68-3-----	Hexachlorobutadiene	450.	U
59-50-7-----	4-Chloro-3-methylphenol	450.	U
91-57-6-----	2-Methylnaphthalene	450.	U
77-47-4-----	Hexachlorocyclopentadiene	450.	U
88-06-2-----	2,4,6-Trichlorophenol	450.	U
95-95-4-----	2,4,5-Trichlorophenol	1100.	U
91-58-7-----	2-Chloronaphthalene	450.	U
88-74-4-----	2-Nitroaniline	1100.	U
131-11-3-----	Dimethylphthalate	450.	U
208-96-8-----	Acenaphthylene	450.	U
606-20-2-----	2,6-Dinitrotoluene	450.	U
99-09-2-----	3-Nitroaniline	1100.	U
83-32-9-----	Acenaphthene	450.	U

FORM I SV-1

0772

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR88

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR69
Matrix: (soil/water) SOIL Lab Sample ID: 58072-008
Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1998
Level: (low/med) LOW Date Received: 1/15/98
% Moisture: 27 decanted: (Y/N) N Date Extracted: 1/23/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/27/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5-----	2,4-Dinitrophenol	1100.	U
100-02-7-----	4-Nitrophenol	1100.	U
132-64-9-----	Dibenzofuran	450.	U
121-14-2-----	2,4-Dinitrotoluene	450.	U
84-66-2-----	Diethylphthalate	450.	U
7005-72-3-----	4-Chlorophenyl-phenylether	450.	U
86-73-7-----	Fluorene	450.	U
100-01-6-----	4-Nitroaniline	1100.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1100.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	450.	U
101-55-3-----	4-Bromophenyl-phenylether	450.	U
118-74-1-----	Hexachlorobenzene	450.	U
87-86-5-----	Pentachlorophenol	1100.	U
85-01-8-----	Phenanthrene	40.	J
120-12-7-----	Anthracene	450.	U
86-74-8-----	Carbazole	450.	U
84-74-2-----	Di-n-butylphthalate	450.	U
206-44-0-----	Fluoranthene	120.	J
129-00-0-----	Pyrene	100.	J
85-68-7-----	Butylbenzylphthalate	450.	U
91-94-1-----	3,3'-Dichlorobenzidine	450.	U
56-55-3-----	Benzo(a)anthracene	52.	J
218-01-9-----	Chrysene	75.	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	77.	JB
117-84-0-----	Di-n-octylphthalate	450.	U
205-99-2-----	Benzo(b)fluoranthene	80.	J
207-08-9-----	Benzo(k)fluoranthene	74.	J
50-32-8-----	Benzo(a)pyrene	70.	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	61.	J
53-70-3-----	Dibenz(a,h)anthracene	450.	U
191-24-2-----	Benzo(g,h,i)perylene	62.	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

0773 OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR89

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN Case No.: 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-011

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G2002

Level: (low/med) LOW

Date Received: 1/15/98 ✓

% Moisture: 22 decanted: (Y/N) N

Date Extracted: 1/20/98 ✓

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/27/98 ✓

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.8

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
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108-95-2-----	Phenol	420.	U
111-44-4-----	bis(2-Chloroethyl)ether	420.	U
95-57-8-----	2-Chlorophenol	420.	U
541-73-1-----	1,3-Dichlorobenzene	420.	U
106-46-7-----	1,4-Dichlorobenzene	420.	U
95-50-1-----	1,2-Dichlorobenzene	420.	U
95-48-7-----	2-Methylphenol	420.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	420.	U
106-44-5-----	4-Methylphenol	420.	U
621-64-7-----	N-Nitroso-di-n-propylamine	420.	U
67-72-1-----	Hexachloroethane	420.	U
98-95-3-----	Nitrobenzene	420.	U
78-59-1-----	Isophorone	420.	U
88-75-5-----	2-Nitrophenol	420.	U
105-67-9-----	2,4-Dimethylphenol	420.	U
111-91-1-----	bis(2-Chloroethoxy)methane	420.	U
120-83-2-----	2,4-Dichlorophenol	420.	U
120-82-1-----	1,2,4-Trichlorobenzene	420.	U
91-20-3-----	Naphthalene	420.	U
106-47-8-----	4-Chloroaniline	420.	U
87-68-3-----	Hexachlorobutadiene	420.	U
59-50-7-----	4-Chloro-3-methylphenol	420.	U
91-57-6-----	2-Methylnaphthalene	420.	U
77-47-4-----	Hexachlorocyclopentadiene	420.	U
88-06-2-----	2,4,6-Trichlorophenol	420.	U
95-95-4-----	2,4,5-Trichlorophenol	1100.	U
91-58-7-----	2-Chloronaphthalene	420.	U
88-74-4-----	2-Nitroaniline	1100.	U
131-11-3-----	Dimethylphthalate	420.	U
208-96-8-----	Acenaphthylene	420.	U
606-20-2-----	2,6-Dinitrotoluene	420.	U
99-09-2-----	3-Nitroaniline	1100.	U
83-32-9-----	Acenaphthene	420.	U

0837

FORM I SV-1

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

FFR89

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-011

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G2002

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: 22 decanted: (Y/N) N

Date Extracted: 1/20/98

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/27/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.8

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	1100.	U
100-02-7-----	4-Nitrophenol	1100.	U
132-64-9-----	Dibenzofuran	420.	U
121-14-2-----	2,4-Dinitrotoluene	420.	U
84-66-2-----	Diethylphthalate	420.	U
7005-72-3-----	4-Chlorophenyl-phenylether	420.	U
86-73-7-----	Fluorene	420.	U
100-01-6-----	4-Nitroaniline	1100.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1100.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	420.	U
101-55-3-----	4-Bromophenyl-phenylether	420.	U
118-74-1-----	Hexachlorobenzene	420.	U
87-86-5-----	Pentachlorophenol	1100.	U
85-01-8-----	Phenanthrene	75.	J
120-12-7-----	Anthracene	420.	U
86-74-8-----	Carbazole	420.	U
84-74-2-----	Di-n-butylphthalate	420.	U
206-44-0-----	Fluoranthene	130.	J
129-00-0-----	Pyrene	110.	J
85-68-7-----	Butylbenzylphthalate	420.	U
91-94-1-----	3,3'-Dichlorobenzidine	420.	U
56-55-3-----	Benzo(a)anthracene	49.	J
218-01-9-----	Chrysene	67.	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	66.	JB
117-84-0-----	Di-n-octylphthalate	420.	U
205-99-2-----	Benzo(b)fluoranthene	57.	J
207-08-9-----	Benzo(k)fluoranthene	55.	J
50-32-8-----	Benzo(a)pyrene	56.	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	44.	J
53-70-3-----	Dibenz(a,h)anthracene	420.	U
191-24-2-----	Benzo(g,h,i)perylene	41.	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

0838

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR69

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969 SAS No.:

SDG No.: FFR69

Matrix: (soil/water) WATER

Lab Sample ID: 58072-1

Sample wt/vol: 1000 (g/ml) ML

Lab File ID:

% Moisture: decanted: (Y/N)

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 1/15/98

Concentrated Extract Volume: 10000 (uL)

Date Analyzed: 2/16/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 0.0

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/L	Q
319-84-6-----	alpha-BHC	0.05	U
319-85-7-----	beta-BHC	0.05	U
319-86-8-----	delta-BHC	0.05	U
58-89-9-----	gamma-BHC (Lindane)	0.05	U
76-44-8-----	Heptachlor	0.05	U
309-00-2-----	Aldrin	0.05	U
1024-57-3-----	Heptachlor epoxide	0.05	U
959-98-8-----	Endosulfan I	0.05	U
60-57-1-----	Dieldrin	0.10	U
72-55-9-----	4,4'-DDE	0.10	U
72-20-8-----	Endrin	0.10	U
33213-65-9----	Endosulfan II	0.10	U
72-54-8-----	4,4'-DDD	0.10	U
1031-07-8-----	Endosulfan sulfate	0.10	U
50-29-3-----	4,4'-DDT	0.10	U
72-43-5-----	Methoxychlor	0.50	U
53494-70-5----	Endrin ketone	0.10	U
7421-93-4-----	Endrin aldehyde	0.10	U
5103-71-9-----	alpha-Chlordane	0.05	U
5103-74-2-----	gamma-Chlordane	0.05	U
8001-35-2-----	Toxaphene	5.0	U
12674-11-2----	Aroclor-1016	1.0	U
11104-28-2----	Aroclor-1221	2.0	U
11141-16-5----	Aroclor-1232	1.0	U
53469-21-9----	Aroclor-1242	1.0	U
12672-29-6----	Aroclor-1248	1.0	U
11097-69-1----	Aroclor-1254	1.0	U
11096-82-5----	Aroclor-1260	1.0	U

RH02-24-98

FORM I PEST

OLM03.0

111

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CASE 25969
SDG # 5-869 NO.

FFR72

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969 SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-3

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 26 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/17/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1000.0

GPC Cleanup: (Y/N) Y pH: 7.9

Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS
(ug/L or ug/Kg) UG/KG Q

319-84-6-----	alpha-BHC	2300.	U
319-85-7-----	beta-BHC	2300.	U
319-86-8-----	delta-BHC	2300.	U
58-89-9-----	gamma-BHC (Lindane)	2300.	U
76-44-8-----	Heptachlor	2300.	U
309-00-2-----	Aldrin	2300.	U
1024-57-3-----	Heptachlor epoxide	2300.	U
959-98-8-----	Endosulfan I	2300.	U
60-57-1-----	Dieldrin	4400.	U
72-55-9-----	4,4'-DDE	4400.	U
72-20-8-----	Endrin	330.	UX
33213-65-9----	Endosulfan II	4400.	U
72-54-8-----	4,4'-DDD	4400.	U
1031-07-8-----	Endosulfan sulfate	4400.	U
50-29-3-----	4,4'-DDT	4400.	U
72-43-5-----	Methoxychlor	23000.	U
53494-70-5----	Endrin ketone	330.	UX
7421-93-4-----	Endrin aldehyde	4400.	U
5103-71-9-----	alpha-Chlordane	2300.	U
5103-74-2-----	gamma-Chlordane	4600.	P
8001-35-2-----	Toxaphene	230000.	U
12674-11-2----	Aroclor-1016	44000.	U
11104-28-2----	Aroclor-1221	90000.	U
11141-16-5----	Aroclor-1232	44000.	U
53469-21-9----	Aroclor-1242	44000.	U
12672-29-6----	Aroclor-1248	44000.	U
11097-69-1----	Aroclor-1254	44000.	U
11096-82-5----	Aroclor-1260	1400000.	PE

RH 02-27-98

FORM I PEST

OLM03.0

1133

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CASE 25969
SDG# FFR69 NO.

FFR72DL

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969 SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-3DL

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 26 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/16/98

Injection Volume: 1.0 (uL)

Dilution Factor: 10000.0

GPC Cleanup: (Y/N) Y

pH: 7.9

Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS
(ug/L or ug/Kg) UG/KG Q

319-84-6-----	alpha-BHC	23000.	U
319-85-7-----	beta-BHC	23000.	U
319-86-8-----	delta-BHC	23000.	U
58-89-9-----	gamma-BHC (Lindane)	23000.	U
76-44-8-----	Heptachlor	23000.	U
309-00-2-----	Aldrin	23000.	U
1024-57-3-----	Heptachlor epoxide	23000.	U
959-98-8-----	Endosulfan I	23000.	U
60-57-1-----	Dieldrin	44000.	U
72-55-9-----	4,4'-DDE	44000.	U
72-20-8-----	Endrin	330.	UX
33213-65-9----	Endosulfan II	14000.	DJP
72-54-8-----	4,4'-DDD	44000.	U
1031-07-8-----	Endosulfan sulfate	44000.	U
50-29-3-----	4,4'-DDT	44000.	U
72-43-5-----	Methoxychlor	230000.	U
53494-70-5----	Endrin ketone	330.	UX
7421-93-4-----	Endrin aldehyde	44000.	U
5103-71-9-----	alpha-Chlordane	23000.	U
5103-74-2-----	gamma-Chlordane	5900.	DJP
8001-35-2-----	Toxaphene	2300000.	U
12674-11-2----	Aroclor-1016	440000.	U
11104-28-2----	Aroclor-1221	900000.	U
11141-16-5----	Aroclor-1232	440000.	U
53469-21-9----	Aroclor-1242	440000.	U
12672-29-6----	Aroclor-1248	440000.	U
11097-69-1----	Aroclor-1254	440000.	U
11096-82-5----	Aroclor-1260	2300000.	DC

RH02-27-98

FORM I PEST

OLM03.0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR73

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-4

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 26 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/16/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	2.3	U
319-85-7-----	beta-BHC	2.3	U
319-86-8-----	delta-BHC	2.3	U
58-89-9-----	gamma-BHC (Lindane)	2.3	U
76-44-8-----	Heptachlor	2.3	U
309-00-2-----	Aldrin	2.3	U
1024-57-3-----	Heptachlor epoxide	2.3	U
959-98-8-----	Endosulfan I	2.3	U
60-57-1-----	Dieldrin	4.4	U
72-55-9-----	4,4'-DDE	4.4	U
72-20-8-----	Endrin	95.	PBE
33213-65-9----	Endosulfan II	3.8	JP
72-54-8-----	4,4'-DDD	4.4	U
1031-07-8-----	Endosulfan sulfate	4.4	U
50-29-3-----	4,4'-DDT	4.4	U
72-43-5-----	Methoxychlor	23.	U
53494-70-5----	Endrin ketone	43.	P
7421-93-4-----	Endrin aldehyde	4.4	U
5103-71-9-----	alpha-Chlordane	2.3	U
5103-74-2-----	gamma-Chlordane	1.4	JP
8001-35-2-----	Toxaphene	230.	U
12674-11-2----	Aroclor-1016	44.	U
11104-28-2----	Aroclor-1221	90.	U
11141-16-5----	Aroclor-1232	44.	U
53469-21-9----	Aroclor-1242	44.	U
12672-29-6----	Aroclor-1248	44.	U
11097-69-1----	Aroclor-1254	44.	U
11096-82-5----	Aroclor-1260	1700.	PEC

RH02-27-98

FORM I PEST

OLM03.0

1191

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR73DL

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-4DL

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 26 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/17/98

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y

pH: 7.7

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/KG

Q

319-84-6-----	alpha-BHC	23.	U
319-85-7-----	beta-BHC	23.	U
319-86-8-----	delta-BHC	23.	U
58-89-9-----	gamma-BHC (Lindane)	23.	U
76-44-8-----	Heptachlor	23.	U
309-00-2-----	Aldrin	23.	U
1024-57-3-----	Heptachlor epoxide	23.	U
959-98-8-----	Endosulfan I	23.	U
60-57-1-----	Dieldrin	44.	U
72-55-9-----	4,4'-DDE	44.	U
72-20-8-----	Endrin	190.	DPB
33213-65-9----	Endosulfan II	6.4	DJP
72-54-8-----	4,4'-DDD	44.	U
1031-07-8-----	Endosulfan sulfate	44.	U
50-29-3-----	4,4'-DDT	44.	U
72-43-5-----	Methoxychlor	230.	U
53494-70-5----	Endrin ketone	70.	DP
7421-93-4-----	Endrin aldehyde	44.	U
5103-71-9-----	alpha-Chlordane	23.	U
5103-74-2-----	gamma-Chlordane	2.5	DJP
8001-35-2-----	Toxaphene	2300.	U
12674-11-2----	Aroclor-1016	440.	U
11104-28-2----	Aroclor-1221	900.	U
11141-16-5----	Aroclor-1232	440.	U
53469-21-9----	Aroclor-1242	440.	U
12672-29-6----	Aroclor-1248	440.	U
11097-69-1----	Aroclor-1254	440.	U
11096-82-5----	Aroclor-1260	3100.	D

RH 02-26-98

FORM I PEST

OLM03.0

1205

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CASE 25969
SDG# FFR69
EPA SAMPLE NO.

FFR75

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-13

Sample wt/vol: 30.0 (g/ml)G

Lab File ID:

% Moisture: 26 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/17/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1000.0

GPC Cleanup: (Y/N) Y pH: 8.1

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	2300.	U
319-85-7-----	beta-BHC	2300.	U
319-86-8-----	delta-BHC	2300.	U
58-89-9-----	gamma-BHC (Lindane)	2300.	U
76-44-8-----	Heptachlor	2300.	U
309-00-2-----	Aldrin	2300.	U
1024-57-3-----	Heptachlor epoxide	2300.	U
959-98-8-----	Endosulfan I	2300.	U
60-57-1-----	Dieldrin	4400.	U
72-55-9-----	4,4'-DDE	4400.	U
72-20-8-----	Endrin	330.	UX
33213-65-9----	Endosulfan II	4400.	U
72-54-8-----	4,4'-DDD	4400.	U
1031-07-8-----	Endosulfan sulfate	4400.	U
50-29-3-----	4,4'-DDT	4400.	U
72-43-5-----	Methoxychlor	23000.	U
53494-70-5----	Endrin ketone	330.	UX
7421-93-4-----	Endrin aldehyde	4400.	U
5103-71-9-----	alpha-Chlordane	2300.	U
5103-74-2-----	gamma-Chlordane	6600.	P
8001-35-2-----	Toxaphene	230000.	U
12674-11-2----	Aroclor-1016	44000.	U
11104-28-2----	Aroclor-1221	90000.	U
11141-16-5----	Aroclor-1232	44000.	U
53469-21-9----	Aroclor-1242	44000.	U
12672-29-6----	Aroclor-1248	44000.	U
11097-69-1----	Aroclor-1254	44000.	U
11096-82-5----	Aroclor-1260	2000000.	PEC

FORM I PEST

RHOI-27-98
OLM03.0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

FFR75DL

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.25969 SAS No.:

SDG No.:FFR69

Matrix: (soil/water)SOIL

Lab Sample ID: 58072-13DL

Sample wt/vol: 30.0 (g/ml)G

Lab File ID:

% Moisture: 26 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc)SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/17/98

Injection Volume: 1.0 (uL)

Dilution Factor: 10000.0

GPC Cleanup: (Y/N)Y pH: 8.1

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS	
		(ug/L or ug/Kg)	UG/KG Q
319-84-6-----	alpha-BHC	23000.	U
319-85-7-----	beta-BHC	23000.	U
319-86-8-----	delta-BHC	23000.	U
58-89-9-----	gamma-BHC(Lindane)	23000.	U
76-44-8-----	Heptachlor	23000.	U
309-00-2-----	Aldrin	23000.	U
1024-57-3-----	Heptachlor epoxide	23000.	U
959-98-8-----	Endosulfan I	23000.	U
60-57-1-----	Dieldrin	44000.	U
72-55-9-----	4,4'-DDE	44000.	U
12-20-8-----	Endrin	330.	UX
33213-65-9----	Endosulfan II	44000.	U
72-54-8-----	4,4'-DDD	44000.	U
1031-07-8-----	Endosulfan sulfate	44000.	U
50-29-3-----	4,4'-DDT	44000.	U
72-43-5-----	Methoxychlor	230000.	U
53494-70-5----	Endrin ketone	330.	UX
7421-93-4-----	Endrin aldehyde	44000.	U
5103-71-9-----	alpha-Chlordane	23000.	U
5103-74-2-----	gamma-Chlordane	8600.	DJP
8001-35-2-----	Toxaphene	2300000.	U
12674-11-2----	Aroclor-1016	440000.	U
11104-28-2----	Aroclor-1221	900000.	U
11141-16-5----	Aroclor-1232	440000.	U
53469-21-9----	Aroclor-1242	440000.	U
12672-29-6----	Aroclor-1248	440000.	U
11097-69-1----	Aroclor-1254	440000.	U
11096-82-5----	Aroclor-1260	4100000.	DC

FORM I PEST

OLM03.0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR77

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969 SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-5

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 22 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/16/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	2.2	U
319-85-7-----	beta-BHC	2.2	U
319-86-8-----	delta-BHC	2.2	U
58-89-9-----	gamma-BHC(Lindane)	2.2	U
76-44-8-----	Heptachlor	2.2	U
309-00-2-----	Aldrin	1.2	JP
1024-57-3-----	Heptachlor epoxide	2.2	U
959-98-8-----	Endosulfan I	2.2	U
60-57-1-----	Dieldrin	4.2	U
72-55-9-----	4,4'-DDE	3.9	JP
72-20-8-----	Endrin	6.6	PB
33213-65-9----	Endosulfan II	4.2	U
72-54-8-----	4,4'-DDD	4.2	U
1031-07-8-----	Endosulfan sulfate	4.2	U
50-29-3-----	4,4'-DDT	4.2	U
72-43-5-----	Methoxychlor	22.	U
53494-70-5-----	Endrin ketone	3.2	JP
7421-93-4-----	Endrin aldehyde	4.2	U
5103-71-9-----	alpha-Chlordane	2.2	U
5103-74-2-----	gamma-Chlordane	2.2	U
8001-35-2-----	Toxaphene	220.	U
12674-11-2----	Aroclor-1016	42.	U
11104-28-2----	Aroclor-1221	86.	U
11141-16-5----	Aroclor-1232	42.	U
53469-21-9----	Aroclor-1242	42.	U
12672-29-6----	Aroclor-1248	42.	U
11097-69-1----	Aroclor-1254	42.	U
11096-82-5----	Aroclor-1260	160.	PC

RH 02-26-98

FORM I PEST

OLM03.0

1272

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CASE 25969
SDG# FFR69
EPA SAMPLE NO.

FFR78

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969 SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-6

Sample wt/vol: 30:0 (g/ml)G

Lab File ID:

% Moisture: 26 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/16/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N)Y pH: 7.7

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	2.3	U
319-85-7-----	beta-BHC	2.3	U
319-86-8-----	delta-BHC	2.3	U
58-89-9-----	gamma-BHC(Lindane)	2.3	U
76-44-8-----	Heptachlor	2.3	U
309-00-2-----	Aldrin	2.3	U
1024-57-3-----	Heptachlor epoxide	2.3	U
959-98-8-----	Endosulfan I	2.3	U
60-57-1-----	Dieldrin	4.4	U
72-55-9-----	4,4'-DDE	1.2	JP
72-20-8-----	Endrin	14.	PB
33213-65-9----	Endosulfan II	4.4	U
72-54-8-----	4,4'-DDD	4.4	U
1031-07-8-----	Endosulfan sulfate	4.4	U
50-29-3-----	4,4'-DDT	4.4	U
72-43-5-----	Methoxychlor	23.	U
53494-70-5----	Endrin ketone	7.5	P
7421-93-4-----	Endrin aldehyde	4.4	U
5103-71-9-----	alpha-Chlordane	2.3	U
5103-74-2-----	gamma-Chlordane	2.3	U
8001-35-2-----	Toxaphene	230.	U
12674-11-2----	Aroclor-1016	44.	U
11104-28-2----	Aroclor-1221	90.	U
11141-16-5----	Aroclor-1232	44.	U
53469-21-9----	Aroclor-1242	44.	U
12672-29-6----	Aroclor-1248	44.	U
11097-69-1----	Aroclor-1254	44.	U
11096-82-5----	Aroclor-1260	320.	

RA02-26-98

FORM I PEST

OLM03.0

1291

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CASE 25969
SDG# FFR69
EPA SAMPLE NO.

FFR79

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005

Lab Code: CLAYTN Case No. 25969 SAS No.: SDG No.: FFR69

Matrix: (soil/water) SOIL Lab Sample ID: 58072-7

Sample wt/vol: 30.0 (g/ml) G Lab File ID:

% Moisture: 22 decanted: (Y/N) N Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 2/16/98

Injection Volume: 1.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) Y pH: 7.8 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	110.	U
319-85-7-----	beta-BHC	110.	U
319-86-8-----	delta-BHC	110.	U
58-89-9-----	gamma-BHC (Lindane)	110.	U
76-44-8-----	Heptachlor	110.	U
309-00-2-----	Aldrin	110.	U
1024-57-3-----	Heptachlor epoxide	110.	U
959-98-8-----	Endosulfan I	110.	U
60-57-1-----	Dieldrin	210.	U
72-55-9-----	4,4'-DDE	210.	U
72-20-8-----	Endrin	3800.	PBE
33213-65-9----	Endosulfan II	210.	U
72-54-8-----	4,4'-DDD	24.	JP
1031-07-8-----	Endosulfan sulfate	210.	U
50-29-3-----	4,4'-DDT	210.	U
72-43-5-----	Methoxychlor	1100.	U
53494-70-5----	Endrin ketone	1500.	P
7421-93-4-----	Endrin aldehyde	210.	U
5103-71-9-----	alpha-Chlordane	14.	JP
5103-74-2-----	gamma-Chlordane	120.	P
8001-35-2-----	Toxaphene	11000.	U
12674-11-2----	Aroclor-1016	2100.	U
11104-28-2----	Aroclor-1221	4300.	U
11141-16-5----	Aroclor-1232	2100.	U
53469-21-9----	Aroclor-1242	2100.	U
12672-29-6----	Aroclor-1248	2100.	U
11097-69-1----	Aroclor-1254	2100.	U
11096-82-5----	Aroclor-1260	63000.	PE

RH02-26-91

FORM I PEST

OLM03.0

1303

CASE 25969
SDG# FFR69

EPA SAMPLE NO.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

FFR80

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969 SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-9

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 28 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/17/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1000.0

GPC Cleanup: (Y/N) Y pH: 8.2

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	2400.	U
319-85-7-----	beta-BHC	2400.	U
319-86-8-----	delta-BHC	2400.	U
58-89-9-----	gamma-BHC (Lindane)	2400.	U
76-44-8-----	Heptachlor	2400.	U
309-00-2-----	Aldrin	2400.	U
1024-57-3-----	Heptachlor epoxide	2400.	U
959-98-8-----	Endosulfan I	2400.	U
60-57-1-----	Dieldrin	4600.	U
72-55-9-----	4,4'-DDE	4600.	U
72-20-8-----	Endrin	330.	UX
33213-65-9----	Endosulfan II	12000.	P
72-54-8-----	4,4'-DDD	4600.	U
1031-07-8-----	Endosulfan sulfate	4600.	U
50-29-3-----	4,4'-DDT	4600.	U
72-43-5-----	Methoxychlor	24000.	U
53494-70-5-----	Endrin ketone	330.	UX
7421-93-4-----	Endrin aldehyde	4600.	U
5103-71-9-----	alpha-Chlordane	2400.	U
5103-74-2-----	gamma-Chlordane	6600.	P
8001-35-2-----	Toxaphene	240000.	U
12674-11-2----	Aroclor-1016	46000.	U
11104-28-2----	Aroclor-1221	93000.	U
11141-16-5----	Aroclor-1232	46000.	U
53469-21-9----	Aroclor-1242	46000.	U
12672-29-6----	Aroclor-1248	46000.	U
11097-69-1----	Aroclor-1254	46000.	U
11096-82-5----	Aroclor-1260	1700000.	PE

FORM I PEST

RH 02-27-98
OLM03.0

1335

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CASE 151
SDG# FFR69
EPA SAMPLE NO.

FFR80DL

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005

Lab Code: CLAYTN Case No. 25969 SAS No.: SDG No.: FFR69

Matrix: (soil/water) SOIL Lab Sample ID: 58072-9DL

Sample wt/vol: 30.0 (g/ml) G Lab File ID:

% Moisture: 28 decanted: (Y/N) N Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 2/16/98

Injection Volume: 1.0 (uL) Dilution Factor: 10000.0

GPC Cleanup: (Y/N) Y pH: 8.2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	24000.	U
319-85-7-----	beta-BHC	24000.	U
319-86-8-----	delta-BHC	24000.	U
58-89-9-----	gamma-BHC (Lindane)	24000.	U
76-44-8-----	Heptachlor	24000.	U
309-00-2-----	Aldrin	24000.	U
1024-57-3-----	Heptachlor epoxide	24000.	U
959-98-8-----	Endosulfan I	24000.	U
60-57-1-----	Dieldrin	46000.	U
72-55-9-----	4,4'-DDE	46000.	U
72-20-8-----	Endrin	330.	UX
33213-65-9----	Endosulfan II	11000.	DJP
72-54-8-----	4,4'-DDD	46000.	U
1031-07-8-----	Endosulfan sulfate	46000.	U
50-29-3-----	4,4'-DDT	46000.	U
72-43-5-----	Methoxychlor	240000.	U
53494-70-5----	Endrin ketone	330.	UX
7421-93-4-----	Endrin aldehyde	46000.	U
5103-71-9-----	alpha-Chlordane	24000.	U
5103-74-2-----	gamma-Chlordane	9100.	DJP
8001-35-2-----	Toxaphene	2400000.	U
12674-11-2----	Aroclor-1016	460000.	U
11104-28-2----	Aroclor-1221	930000.	U
11141-16-5----	Aroclor-1232	460000.	U
53469-21-9----	Aroclor-1242	460000.	U
12672-29-6----	Aroclor-1248	460000.	U
11097-69-1----	Aroclor-1254	460000.	U
11096-82-5----	Aroclor-1260	3000000.	DC

RH2C-27-98

FORM I PEST

OLM03.0

1380

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR88

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969 SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-8

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 27 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/16/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	2.3	U
319-85-7	beta-BHC	2.3	U
319-86-8	delta-BHC	2.3	U
58-89-9	gamma-BHC (Lindane)	2.3	U
76-44-8	Heptachlor	2.3	U
309-00-2	Aldrin	2.3	U
1024-57-3	Heptachlor epoxide	2.3	U
959-98-8	Endosulfan I	2.3	U
60-57-1	Dieldrin	4.5	U
72-55-9	4,4'-DDE	2.0	J
72-20-8	Endrin	4.3	PB
33213-65-9	Endosulfan II	4.5	U
72-54-8	4,4'-DDD	4.5	U
1031-07-8	Endosulfan sulfate	4.5	U
50-29-3	4,4'-DDT	4.5	U
72-43-5	Methoxychlor	23.	U
53494-70-5	Endrin ketone	1.6	JP
7421-93-4	Endrin aldehyde	4.5	U
5103-71-9	alpha-Chlordane	2.3	U
5103-74-2	gamma-Chlordane	2.3	U
8001-35-2	Toxaphene	230.	U
12674-11-2	Aroclor-1016	45.	U
11104-28-2	Aroclor-1221	92.	U
11141-16-5	Aroclor-1232	45.	U
53469-21-9	Aroclor-1242	45.	U
12672-29-6	Aroclor-1248	45.	U
11097-69-1	Aroclor-1254	45.	U
11096-82-5	Aroclor-1260	75.	

FORM I PEST

OLM03.0

1400

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR89

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR69

Matrix: (soil/water) SOIL

Lab Sample ID: 58072-11

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 26 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/16/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.8

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	2.3	U
319-85-7-----	beta-BHC	2.3	U
319-86-8-----	delta-BHC	2.3	U
58-89-9-----	gamma-BHC (Lindane)	2.3	U
76-44-8-----	Heptachlor	2.3	U
309-00-2-----	Aldrin	2.3	U
1024-57-3-----	Heptachlor epoxide	2.3	U
959-98-8-----	Endosulfan I	2.3	U
60-57-1-----	Dieldrin	4.4	U
72-55-9-----	4,4'-DDE	4.4	U
72-20-8-----	Endrin	2.1	PBJ
33213-65-9----	Endosulfan II	4.4	U
72-54-8-----	4,4'-DDD	4.4	U
1031-07-8-----	Endosulfan sulfate	4.4	U
50-29-3-----	4,4'-DDT	4.4	U
72-43-5-----	Methoxychlor	23.	U
53494-70-5----	Endrin ketone	4.4	U
7421-93-4-----	Endrin aldehyde	4.4	U
5103-71-9-----	alpha-Chlordane	2.3	U
5103-74-2-----	gamma-Chlordane	2.3	U
8001-35-2-----	Toxaphene	230.	U
12674-11-2----	Aroclor-1016	44.	U
11104-28-2----	Aroclor-1221	90.	U
11141-16-5----	Aroclor-1232	44.	U
53469-21-9----	Aroclor-1242	44.	U
12672-29-6----	Aroclor-1248	44.	U
11097-69-1----	Aroclor-1254	44.	U
11096-82-5----	Aroclor-1260	31.	J

RH02-27-98

FORM I PEST

OLM03.0

1410

EPA United States Environmental Protection Agency Contract Laboratory Program		Organic Traffic Report & Chain of Custody Record (For Organic CLP Analysis)			SAS No. (if applicable)	Case No. 25969					
1. Project Code	Account Code	2. Region No. 6	Sampling Co. TNRCC	4. Date Shipped 01/14/98	Carrier Airborne Express	6. Matrix (Enter in Column A)					
Regional Information		Sampler (Name) Ray Newby		Airbill Number 2423938635		7. Preservative (Enter in Column D)					
Non-Superfund Program		Sampler Signature		5. Ship To Clayton Environmental Cons.							
Site Name Frank J. Doyle Transformer		3. Purpose		22345 Roethal Drive Novi, MI 48375							
City, State Leonard, TX	Site Spill ID	Lead		ATTN: Kelly Kolb 810-344-1770		8. Other (Specify in Column A)					
CLP Sample Numbers (from labels)	A Matrix (from Box 6)	B Conc. Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 7)	E RAS Analysis	F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Inorganic Sample No.	J Sampler Initials	K Field QC Qualifier
	Other:			Other:	VOA BNA PCB High only ARO/TOX						B = Blank, S = Spike D = Duplicate R = Rinsate PE = Perform. Eval. -- = Not a QC Sample
FFR91	5	low	grab	5	X X X	6-164745-748	SO-01	01/13/98 13:30	MFHM13	RN	
FFR92	5	low	grab	5	X X X	6-164751-754	SO-02	01/13/98 13:45	MFHM14	RN	
FFR87	5	low	grab	5	X X X	6-164757-760	SO-03	01/13/98 14:15	MFHM09	RN	
FFR85	5	low	grab	5	X X X	6-164781-784	SO-07	01/13/98 15:00	MFHM07	RN	
FFR86	5	low	grab	5	X X X	6-164787-790	SO-08	01/13/98 15:15	MFHM08	RN	
FFR81	5	low	grab	5	X X X	6-164793-796	SO-09	01/13/98 15:30	MFHM03	RN	
FFR82	5	low	grab	5	X X X	6-162800-803	SO-10	01/13/98 15:35	MFHM04	RN	D
FFR83	5	low	grab	5	X X X	6-162806-809	SO-11	01/13/98 16:10	MFHM05	RN	
FFR76	5	low	grab	5	X X X	6-162836-839	SO-16	01/13/98 16:30	MFHL98	RN	
Shipment for Case Complete? (Y/N) No		Page 1 of 1	Sample(s) to be Used for Laboratory QC FFR83			Additional Sampler Signatures			Chain of Custody Seal Number(s)		

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature) Abigail Pourn	Date / Time 01/14/98 19:30	Received by: (Signature) Anthony	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

DISTRIBUTION: Blue - Region Copy
White - Lab Copy for Return to Region

Pink - SMO Copy
Yellow - Lab Copy for Return to SMO

EPA Form 9110-2

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
SEE REVERSE FOR PURPOSE CODE DEFINITIONS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10625 FALLSTONE RD.
HOUSTON, TEXAS 77099

MEMORANDUM

Date: March 6, 1998
Subject: Contract Laboratory Program Data Review
From: *Marvelyn Humphrey*
Marvelyn Humphrey, Alternate ESAT RPO, 6MD-HC
To: Bill Kirchner, 6SF-RA

Site: DOYLE, FRANK J. TRANSFORMERS
Case#: 25969
SDG#: FFR76

The EPA Region 6 Houston Branch ESAT data review team has completed a review of the submitted Contract Laboratory Program (CLP) data package for the referenced site. The samples analyzed and reviewed are detailed in the attached Regional data review report.

The data package is acceptable. Problems, if any, are listed in the report narrative.

If you have any questions regarding the data review report, please call me at (281) 983-2140.

Attachments

cc: R. Flores, Region 6 CLP/TPO
M. El-feky, Region 6 Data Coordinator
Files (2)



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ONE STERLING PLAZA
10101 SOUTHWEST FREEWAY, SUITE 500
HOUSTON, TEXAS 77074

MEMORANDUM

DATE: March 4, 1998
TO: Dr. Melvin Ritter, ESAT RPO, Region VI
FROM: Dr. Tom C.H. Chiang, ESAT Team Manager, Region VI
SUBJECT: CLP Data Review *See encl. 11y*
REF: TDF # 6-8169A, ESAT File # O-1886
ESAT Contract No. 68-D6-0005

Attached is the data review summary for Case # 25969
SDG # FFR76
Site DOYLE F J
TRANSFORMERS

COMMENTS:

I. CONTRACTUAL ASSESSMENT OF THE DATA PACKAGE

- A. The reviewer could not confirm two of three contractually non-compliant items mentioned in the CCS report but did confirm the following item.

The laboratory extracted all Pest/PCB samples 15 days past the contractual holding time limit (OLM03.2, D-20/PEST, 8.4.1). The DDE result for sample FF-R87 and the AR1260 results for samples FF-R76DL, FF-R81, FF-R82, FF-R83DL, FF-R85, FF-R86, and FF-R87 were qualified.

- B. The data package was 4 days late for the 35-day turnaround time requirement.

II. TECHNICAL USABILITY ASSESSMENT OF THE DATA PACKAGE

The total number of results reviewed was 1125 for this data package. Some results were qualified because of the following significant problems.

- A. The technical holding time for extraction of Pest/PCB samples was excessive (27 days).
- B. Coeluting aroclor peaks interfered with the detection and quantitation of several pesticides.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10625 FALLSTONE ROAD
HOUSTON, TEXAS 77099

ORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 25969 SITE DOYLE F J TRANSFORMERS
LABORATORY CLAYTN NO. OF SAMPLES 9
CONTRACT# 68-D5-0005 MATRIX soil
SDG# FFR76 REVIEWER (IF NOT ESD) ESAT
SOW# RAS OLM03.2 REVIEWER'S NAME Mike Fertitta and
Yue-Mei Liu
ACCT# 8FAXJN27 SF# FAXU1D COMPLETION DATE March 4, 1998

SAMPLE NO.'s: FF-R76 FF-R85 FF-R92 _____
FF-R81 FF-R86 _____
FF-R82 FF-R87 _____
FF-R83 FF-R91 _____

DATA ASSESSMENT SUMMARY

	VOA	BNA	PEST
1. HOLDING TIMES	<u>O</u>	<u>O</u>	<u>M</u>
2. GC/MS TUNE/INSTR. PERFORM.	<u>O</u>	<u>O</u>	<u>O</u>
3. CALIBRATIONS	<u>M</u>	<u>O</u>	<u>O</u>
4. BLANKS	<u>O</u>	<u>O</u>	<u>O</u>
5. SMC/SURROGATES	<u>O</u>	<u>O</u>	<u>O</u>
6. MATRIX SPIKE/DUPLICATE	<u>O</u>	<u>O</u>	<u>O</u>
7. OTHER QC	<u>O</u>	<u>O</u>	<u>O</u>
8. INTERNAL STANDARDS	<u>O</u>	<u>O</u>	<u>N/A</u>
9. COMPOUND ID/QUANTITATION	<u>O</u>	<u>O</u>	<u>M</u>
10. PERFORMANCE/COMPLETENESS	<u>O</u>	<u>O</u>	<u>O</u>
11. OVERALL ASSESSMENT	<u>M</u>	<u>O</u>	<u>M</u>

O = Data had no problems.

M = Data qualified due to major or minor problems.

Z = Data unacceptable.

NA = Not applicable.

ACTION ITEMS: The extraction of the Pest/PCB samples exceeded the contractual holding time limit. The data package arrived four days late.

AREA OF CONCERN: Technical holding time was excessive for the extraction of Pest/PCB samples. Acetone failed the technical %RSD and %D calibration criteria. Aroclor peak interferences obscured the detection or interfered with the quantitation of pesticides in five samples.

NOTABLE PERFORMANCE:

COMMENTS/CLARIFICATIONS
REGION VI CLP QA REVIEW

CASE 25969 SDG FFR76 SITE DOYLE F J TRANSFORMERS LAB CLAYTN

The following is a summary of sample qualifiers used by Region 6 in reporting this CLP data:

<u>No.</u>	<u>Acceptable</u>	<u>Provisional</u>	<u>Unacceptable</u>
VOA	<u>6</u>	<u>3</u>	<u></u>
BNA	<u>9</u>	<u></u>	<u></u>
PEST	<u>2</u>	<u>7</u>	<u></u>

COMMENTS: The case consisted of 9 soil samples for complete RAS organics analysis. The OTR/COC Record designated sample FF-R83 as the laboratory QC sample and samples FF-R81 and FF-R82 as field duplicates. The data package had the following contractually non-compliant items.

- Pest/PCB samples were extracted 15 days past the contractual holding time limit.
- The data package arrived 4 days late for the 35-day turnaround time.

VOA/BNA: The laboratory analyzed the samples following the low level methods. TCL analytes reported above the CRQL's included acetone, bis(2-ethylhexyl)phthalate, and several polyaromatic hydrocarbons (PAH's) in five samples. However, except for sample FF-R83, the acetone and bis(2-ethylhexyl)phthalate concentrations were due to laboratory contamination.

Pest/PCB: High concentrations of AR1260 (up to 85,000 $\mu\text{g/Kg}$) required 8X to 100X dilution for samples FF-R76, FF-R81, FF-R82, and FF-R83. AR1260 was also reported above the quantitation limits in samples FF-R85, FF-R86, and FF-R87, and DDE was reported above the CRQL in sample FF-R87. The laboratory analyzed samples FF-R85 and FF-R86 at 8X dilution, but the dilution appeared to be for no obvious reasons.

Some results are provisional for three VOA and seven Pest/PCB samples because of problems with holding time, calibrations, compound identification, and compound quantitation. The technical usability of all reported sample results is indicated by ESAT's final data qualifiers in the Data Summary Table. An Evidence Audit was conducted for the Complete Sample Delivery Group File (CSF), and the results were recorded in the Evidence Inventory Checklist.

NOTE: THE FOLLOWING REVIEW NARRATIVE ADDRESSES BOTH CONTRACTUAL ISSUES (BASED ON THE STATEMENT OF WORK) AND TECHNICAL ISSUES (BASED ON THE NATIONAL FUNCTIONAL GUIDELINES). THE ASSESSMENT MADE FOR EACH QC PARAMETER IS SOLELY BASED ON THE TECHNICAL DATA USABILITY, WHICH MAY NOT NECESSARILY BE AFFECTED BY CONTRACTUAL PROBLEMS. THE ASSESSMENTS ARE DEFINED BELOW.

ORGANIC QA REVIEW
CONTINUATION PAGE

CASE 25969 SDG FFR76 SITE DOYLE F J TRANSFORMERS LAB CLAYTN

Acceptable = No results were qualified for any problem associated with this QC parameter.
Provisional = Some results were qualified because of problems associated with this QC parameter.
Unusable = All results are unusable because of major problems associated with this QC parameter.

1. **Holding Times:** Provisional. The laboratory met contractual holding time criteria for all VOA and BNA samples but extracted all of the Pest/PCB samples 15 days past the contractual holding time limit. Technical holding times have not yet been established for soil samples. However, per Region 6 guidelines, the reviewer qualified as estimated the DDE result for Pest/PCB sample FF-R87 and the AR1260 results for Pest/PCB samples FF-R76DL, FF-R81, FF-R82, FF-R83DL, FF-R85, FF-R86, and FF-R87 because the technical holding time of the samples was 27 days. The other Pest/PCB sample results did not have analyte concentrations above the quantitation limits or were flagged "U" because of interferences, so qualification of those results was not required.

The laboratory received all samples at slightly elevated cooler temperatures (6.8°C and 7.2°C). In the reviewer's opinion, the cooler temperatures had no effect on the sample results.

2. **Tuning/Performance:** Acceptable. The BFB and DFTPP analyses met GC/MS tuning criteria for the VOA and BNA fractions. Endosulfan I and α -chlordane coeluted on column DB-5MS while their retention time windows overlapped on column DB-608. The reviewer verified that these problems did not affect the identification of Pest/PCB target analytes above CRQL levels in the samples.

3. **Calibrations:** Provisional. Target analytes generally met contractual calibration criteria. The reviewer qualified the acetone concentrations as estimated in the following VOA samples because of the technical %RSD and %D deficiencies: FF-R76, FF-R81, and FF-R82. Methoxychlor and γ -BHC failed technical %RSD calibration criteria on one column, but the analytes were not detected above the quantitation limits in the Pest/PCB samples.

4. **Blanks:** Acceptable. All method, storage, and instrument blanks met contractual QC guidelines. The Pest/PCB blanks were free of contamination. The method and storage blanks for VOA and BNA analyses contained bromomethane, methylene chloride, acetone, carbon disulfide, 2-butanone, 4-methyl-2-pentanone, 2-hexanone, 1,1,2,2-tetrachloroethane, and bis(2-ethylhexyl)phthalate below the contractual upper limits. Bromomethane, 4-methyl-2-pentanone, 2-hexanone, and 1,1,2,2-tetrachloroethane were not

ORGANIC QA REVIEW
CONTINUATION PAGE

CASE 25969 SDG FFR76 SITE DOYLE F J TRANSFORMERS LAB CLAYTN

4. Blanks (continued): detected in any samples. The storage blank contamination was most likely introduced during the analysis rather than storage.

The reviewer qualified the bis(2-ethylhexyl)phthalate concentration in sample FF-R83 with a "B" flag to indicate a high bias resulting from laboratory contamination. All other sample results "B"-flagged by the laboratory should be considered as undetected (U) because the sample concentrations were less than 5X/10X the associated blank concentrations.

5. System Monitoring Compounds (SMC's)/Surrogates: Acceptable. All SMC and most surrogate recoveries were within the QC limits. Matrix interferences and/or dilution caused outlying surrogate recoveries for several Pest/PCB samples. Result qualification is unnecessary. The reviewer verified that target analyte results were not affected by matrix interferences except for aroclor interferences which are discussed in Section 9 below.

6. Matrix Spike/Matrix Spike Duplicate: Acceptable. MS/MSD results met QC criteria for percent recovery and precision with a few exceptions for the BNA and Pest/PCB fractions. MS/MSD recoveries were high for 2,4-dinitrotoluene and dieldrin. Since these analytes were not detected in the unspiked BNA or Pest/PCB samples, sample result qualification was not necessary.

Coeluting aroclor interferences caused outlying MS/MSD results for the Pest/PCB fraction. AR1260 peaks were reported as endrin at such high concentrations in the native and spiked Pest/PCB samples that spiked concentrations of endrin were masked, causing zero or negative MS/MSD recoveries for that analyte. Zero percent MS/MSD recoveries were reported for DDT because AR1260 peaks obscured its detection. The reviewer addresses the effect of coeluting aroclor interferences on the detection of endrin and DDT together with other pesticides facing similar interferences in Section 9 of this report.

7. Other QC:

Field Duplicates: Acceptable. Field duplicate results were generally consistent.

8. Internal Standards (IS): Acceptable. The internal standard areas and retention times were within the QC limits for all of the VOA and BNA analyses.

9. Compound Identity (ID)/Quantitation: Provisional.

VOA/BNA: The TCL analytes reported above the CRQL included acetone in samples FF-R76, FF-R81, and FF-R82, and several PAH's

ORGANIC QA REVIEW
CONTINUATION PAGE

CASE 25969 SDG FFR76 SITE DOYLE F J TRANSFORMERS LAB CLAYTN

9. Compound ID/Quantitation (continued): and/or bis(2-ethylhexyl)phthalate in samples FF-R81, FF-R83, and FF-R85. Except for BNA sample FF-R83, the acetone and bis(2-ethylhexyl)-phthalate concentrations reported were due to laboratory contamination. All reported results met the compound identification and quantitation criteria.

Pest/PCB: High concentrations of AR1260 (up to 85,000 $\mu\text{g/Kg}$) required 8X to 100X dilution for samples FF-R76, FF-R81, FF-R82, and FF-R83. Analyses of both the 10X and 100X dilution were submitted for samples FF-R76 and FF-R83. The reviewer recommends using quantitation limits from the less diluted analysis for both samples except for those analytes whose detection was obscured by significant aroclor interferences. The results recommended for use are designated in the Data Summary Table. AR1260 was also reported above the quantitation limits in samples FF-R85, FF-R86, and FF-R87, and DDE was reported above the CRQL in sample FF-R87. The laboratory analyzed samples FF-R85 and FF-R86 at 8X dilution, but the reason for the dilution was unclear.

The presence of AR1260 was confirmed by GC/MS analysis for samples FF-R76, FF-R81, FF-R82, and FF-R83. Two pesticide results, endosulfan I in sample FF-R76 and DDE in sample FF-R86, had concentrations exceeding the CRQL's specified in the SOW, but dilution caused the concentrations to fall below the elevated sample quantitation limits.

AR1260 peaks interfered with the detection and identification of some pesticides on one or both columns. These interferences resulted in the sample result qualifications addressed below.

- The following analyte concentrations reported by the laboratory should be considered as raised quantitation limits ("U"):
 - endrin and endrin ketone in samples FF-R76DL, FF-R81, FF-R82, and FF-R87;
 - γ -chlordane in sample FF-R76;
 - endrin and γ -chlordane in sample FF-R83; and
 - endrin ketone in sample FF-R83DL.
- The following concentrations reported below the quantitation limits (QL) were raised to the QL's and flagged "U":
 - endosulfan II, methoxychlor, and γ -chlordane in sample FF-R81;

ORGANIC QA REVIEW
CONTINUATION PAGE

CASE 25969 SDG FFR76 SITE DOYLE F J TRANSFORMERS LAB CLAYTN

9. Compound ID/Quantitation (continued):

dieldrin, endosulfan II, and γ -chlordane in sample FF-R82;

endosulfan II in sample FF-R83DL;

dieldrin, endrin, endrin ketone, methoxychlor, and γ -chlordane in sample FF-R85;

endrin, endrin ketone, and γ -chlordane in sample FF-R86;

dieldrin in sample FF-R87; and

endrin in sample FF-R92.

- The quantitation limits reported by the laboratory for DDT were qualified as estimated and biased low for samples FF-R76DL, FF-R81, FF-R82, FF-R83DL, and FF-R87.

The reviewer qualified as estimated and biased low the raised endrin ketone quantitation limits for samples FF-R76DL and FF-R83DL because of improper peak integration.

10. **Performance/Completeness:** Acceptable. The data package was complete with minor deficiencies. The laboratory was contacted concerning minor problems (see the Telephone and FAX Record Logs). A FAX (pages 1040A and 1040B) submitted in response to the telephone request was placed at the beginning of the data package. The original pages 1040A and 1040B are expected with the response to the final resubmission request and will replace the FAX pages when the resubmission is received.

11. **Overall Assessment:** Data are acceptable for six VOA, all BNA, and two Pest/PCB samples.

VOA The acetone results for the following samples are provisional because of problems with calibrations: FF-R76, FF-R81, and FF-R82.

PEST Some results are provisional for samples FF-R76/DL, FF-R81, FF-R82, FF-R83/DL, FF-R85, FF-R86, and FF-R87 because of problems with holding time, compound identification, and/or compound quantitation.

ORGANIC DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the ESAT-Region 6 qualifiers assigned to results in the Data Summary Table.

- U Not detected at reported quantitation limit.
- N Identification is tentative.
- J Estimated value.
- R Unusable.
- ^ High biased. Actual concentration may be lower than the concentration reported.
- v Low biased. Actual concentration may be higher than the concentration reported.
- F+ A false positive exists.
- F- A false negative exists.
- B This result may be high biased because of laboratory/field contamination. The reported concentration is above 5X or 10X the concentration reported in the method/field blank.
- UJ Estimated quantitation limit.
- T Identification is questionable because of absence of other commonly coexisting pesticides.
- * Result not recommended for use because of associated QA/QC performance inferior to that from other analysis.

Rev. 3/97

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR76

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

VOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R76	FF-R81	FF-R82	FF-R83	FF-R85	FF-R86	FF-R87
Chloromethane	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Bromomethane	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Vinyl chloride	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Chloroethane	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Methylene chloride	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Acetone	74 UJ	86 UJ	82 UJ	13 U	14 U	15 U	15 U
Carbon disulfide	12 U	16 U	16 U	13 U	14 U	15 U	15 U
1,1-Dichloroethene	12 U	16 U	16 U	13 U	14 U	15 U	15 U
1,1-Dichloroethane	12 U	16 U	16 U	13 U	14 U	15 U	15 U
1,2-Dichloroethene (total)	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Chloroform	12 U	16 U	16 U	13 U	14 U	15 U	15 U
1,2-Dichloroethane	12 U	16 U	16 U	13 U	14 U	15 U	15 U
2-Butanone	12 U	16 U	16 U	13 U	14 U	15 U	15 U
1,1,1-Trichloroethane	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Carbon tetrachloride	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Bromodichloromethane	12 U	16 U	16 U	13 U	14 U	15 U	15 U
1,2-Dichloropropane	12 U	16 U	16 U	13 U	14 U	15 U	15 U
cis-1,3-Dichloropropene	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Trichloroethene	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Dibromochloromethane	12 U	16 U	16 U	13 U	14 U	15 U	15 U
1,1,2-Trichloroethane	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Benzene	12 U	16 U	16 U	13 U	14 U	15 U	15 U
trans-1,3-Dichloropropene	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Bromoform	12 U	16 U	16 U	13 U	14 U	15 U	15 U
4-Methyl-2-pentanone	12 U	16 U	16 U	13 U	14 U	15 U	15 U
2-Hexanone	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Tetrachloroethene	12 U	16 U	16 U	13 U	14 U	15 U	15 U
1,1,1,2-Tetrachloroethane	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Toluene	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Chlorobenzene	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Ethylbenzene	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Styrene	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Xylenes (total)	12 U	16 U	16 U	13 U	14 U	15 U	15 U
Sample wt (g):	5.0	5.0	5.0	5.0	5.0	5.0	5.0
%Moisture:	17	37	38	25	30	33	32
Dilution Factor:	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Level:	Low	Low	Low	Low	Low	Low	Low
Number of TIC's:	5	4	4	3	4	4	2

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR76

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

VOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R91	FF-R92					
Chloromethane	14 U	15 U					
Bromomethane	14 U	15 U					
Vinyl chloride	14 U	15 U					
Chloroethane	14 U	15 U					
Methylene chloride	14 U	15 U					
Acetone	14 U	15 U					
Carbon disulfide	14 U	15 U					
1,1-Dichloroethene	14 U	15 U					
1,1-Dichloroethane	14 U	15 U					
1,2-Dichloroethene (total)	14 U	15 U					
Chloroform	14 U	15 U					
1,2-Dichloroethane	14 U	15 U					
2-Butanone	14 U	15 U					
1,1,1-Trichloroethane	14 U	15 U					
Carbon tetrachloride	14 U	15 U					
Bromodichloromethane	14 U	15 U					
1,2-Dichloropropane	14 U	15 U					
cis-1,3-Dichloropropene	14 U	15 U					
Trichloroethene	14 U	15 U					
Dibromochloromethane	14 U	15 U					
1,1,2-Trichloroethane	14 U	15 U					
Benzene	14 U	15 U					
trans-1,3-Dichloropropene	14 U	15 U					
Bromoform	14 U	15 U					
4-Methyl-2-pentanone	14 U	15 U					
2-Hexanone	14 U	15 U					
Tetrachloroethene	14 U	15 U					
1,1,2,2-Tetrachloroethane	14 U	15 U					
Toluene	14 U	15 U					
Chlorobenzene	14 U	15 U					
Ethylbenzene	14 U	15 U					
Styrene	14 U	15 U					
Xylenes (total)	14 U	15 U					
Sample wt (g):	5.0	5.0					
%Moisture:	26	34					
Dilution Factor:	1.0	1.0					
Level:	Low	Low					
Number of TIC's:	4	3					

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR76

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

SEMIVOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R76	FF-R81	FF-R82	FF-R83	FF-R85	FF-R86	FF-R87
Phenol	390 U	31 J	49 J	46 J	27 J	78 J	500 U
bis(2-Chloroethyl)ether	390 U	520 U	510 U	520 U	490 U	550 U	500 U
2-Chlorophenol	390 U	520 U	510 U	520 U	490 U	550 U	500 U
1,3-Dichlorobenzene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
1,4-Dichlorobenzene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
1,2-Dichlorobenzene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
2-Methylphenol	390 U	520 U	510 U	520 U	490 U	550 U	500 U
2,2'-Oxybis(1-chloropropane)	390 U	520 U	510 U	520 U	490 U	550 U	500 U
4-Methylphenol	390 U	520 U	510 U	520 U	490 U	550 U	500 U
N-Nitroso-di-n-propylamine	390 U	520 U	510 U	520 U	490 U	550 U	500 U
Hexachloroethane	390 U	520 U	510 U	520 U	490 U	550 U	500 U
Nitrobenzene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
Isophorone	390 U	520 U	510 U	520 U	490 U	550 U	500 U
2-Nitrophenol	390 U	520 U	510 U	520 U	490 U	550 U	500 U
2,4-Dimethylphenol	390 U	520 U	510 U	520 U	490 U	550 U	500 U
bis(2-Chloroethoxy)methane	390 U	520 U	510 U	520 U	490 U	550 U	500 U
2,4-Dichlorophenol	390 U	520 U	510 U	520 U	490 U	550 U	500 U
1,2,4-Trichlorobenzene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
Naphthalene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
4-Chloroaniline	390 U	520 U	510 U	520 U	490 U	550 U	500 U
Hexachlorobutadiene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
4-Chloro-3-methylphenol	390 U	520 U	510 U	520 U	490 U	550 U	500 U
2-Methylnaphthalene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
Hexachlorocyclopentadiene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
2,4,6-Trichlorophenol	390 U	520 U	510 U	520 U	490 U	550 U	500 U
2,4,5-Trichlorophenol	980 U	1300 U	1300 U	1300 U	1200 U	1400 U	1200 U
2-Chloronaphthalene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
2-Nitroaniline	980 U	1300 U	1300 U	1300 U	1200 U	1400 U	1200 U
Dimethylphthalate	390 U	520 U	510 U	520 U	490 U	60 J	500 U
Acenaphthylene	390 U	520 U	510 U	27 J	490 U	550 U	500 U
2,6-Dinitrotoluene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
3-Nitroaniline	980 U	1300 U	1300 U	1300 U	1200 U	1400 U	1200 U
Acenaphthene	390 U	520 U	510 U	520 U	44 J	550 U	500 U
2,4-Dinitrophenol	980 U	1300 U	1300 U	1300 U	1200 U	1400 U	1200 U
4-Nitrophenol	980 U	1300 U	1300 U	1300 U	1200 U	1400 U	1200 U
Dibenzofuran	390 U	520 U	510 U	520 U	490 U	550 U	500 U
2,4-Dinitrotoluene	390 U	520 U	510 U	520 U	490 U	550 U	500 U
Diethylphthalate	21 J	33 J	27 J	32 J	40 J	550 U	500 U
4-Chlorophenyl-phenylether	390 U	520 U	510 U	520 U	490 U	550 U	500 U
Fluorene	390 U	520 U	510 U	520 U	36 J	550 U	500 U
4-Nitroaniline	980 U	1300 U	1300 U	1300 U	1200 U	1400 U	1200 U
4,6-Dinitro-2-methylphenol	980 U	1300 U	1300 U	1300 U	1200 U	1400 U	1200 U
N-Nitrosodiphenylamine	390 U	520 U	510 U	520 U	490 U	550 U	500 U
4-Bromophenyl-phenylether	390 U	520 U	510 U	520 U	490 U	550 U	500 U
Hexachlorobenzene	390 U	520 U	510 U	520 U	490 U	550 U	500 U

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: PFR76

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

SEMIVOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R76	FF-R81	FF-R82	FF-R83	FF-R85	FF-R86	FF-R87
Pentachlorophenol	980 U	1300 U	1300 U	1300 U	1200 U	1400 U	1200 U
Phenanthrene	27 J	290 J	170 J	420 J	640	100 J	500 U
Anthracene	390 U	44 J	34 J	77 J	80 J	550 U	500 U
Carbazole	390 U	50 J	37 J	93 J	98 J	550 U	500 U
Di-n-butylphthalate	20 J	41 J	30 J	150 J	28 J	33 J	500 U
Fluoranthene	390 U	620	470 J	1200	1500	220 J	500 U
Pyrene	390 U	510 J	410 J	1000	1600	210 J	500 U
Butylbenzylphthalate	390 U	29 J	510 U	67 J	490 U	550 U	500 U
3,3'-Dichlorobenzidine	390 U	520 U	510 U	520 U	490 U	550 U	500 U
Benzo(a)anthracene	390 U	220 J	190 J	580	640	110 J	500 U
Chrysene	390 U	470 J	410 J	1100	1000	170 J	500 U
bis(2-Ethylhexyl)phthalate	390 U	600 U	510 U	710 B	490 U	550 U	500 U
Di-n-octylphthalate	390 U	520 U	510 U	520 U	26 J	36 J	500 U
Benzo(b)fluoranthene	390 U	380 J	340 J	1400	810	140 J	500 U
Benzo(k)fluoranthene	20 J	300 J	250 J	1000	1100	120 J	500 U
Benzo(a)pyrene	390 U	310 J	250 J	840	840	130 J	500 U
Indeno(1,2,3-cd)pyrene	390 U	360 J	320 J	1400	1100	130 J	500 U
Dibenz(a,h)anthracene	390 U	520 U	84 J	520 U	310 J	41 J	500 U
Benzo(g,h,i)perylene	390 U	420 J	320 J	1500	1500	180 J	500 U
Sample wt (g):	30.0	30.0	30.0	30.0	30.0	30.0	30.0
%Moisture:	15	36	35	36	33	40	34
Dilution Factor:	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Level:	Low	Low	Low	Low	Low	Low	Low
Number of TIC's:	30	30	30	30	30	30	30

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR76

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

SEMIVOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R91	FF-R92					
Phenol	460 U	500 U					
bis(2-Chloroethyl)ether	460 U	500 U					
2-Chlorophenol	460 U	500 U					
1,3-Dichlorobenzene	460 U	500 U					
1,4-Dichlorobenzene	460 U	500 U					
1,2-Dichlorobenzene	460 U	500 U					
2-Methylphenol	460 U	500 U					
2,2'-Oxybis(1-chloropropane)	460 U	500 U					
4-Methylphenol	460 U	500 U					
N-Nitroso-di-n-propylamine	460 U	500 U					
Hexachloroethane	460 U	500 U					
Nitrobenzene	460 U	500 U					
Isophorone	460 U	500 U					
2-Nitrophenol	460 U	500 U					
2,4-Dimethylphenol	460 U	500 U					
bis(2-Chloroethoxy)methane	460 U	500 U					
2,4-Dichlorophenol	460 U	500 U					
1,2,4-Trichlorobenzene	460 U	500 U					
Naphthalene	460 U	500 U					
4-Chloroaniline	460 U	500 U					
Hexachlorobutadiene	460 U	500 U					
4-Chloro-3-methylphenol	460 U	500 U					
2-Methylnaphthalene	460 U	500 U					
Hexachlorocyclopentadiene	460 U	500 U					
2,4,6-Trichlorophenol	460 U	500 U					
2,4,5-Trichlorophenol	1200 U	1200 U					
2-Chloronaphthalene	460 U	500 U					
2-Nitroaniline	1200 U	1200 U					
Dimethylphthalate	460 U	500 U					
Acenaphthylene	460 U	500 U					
2,6-Dinitrotoluene	460 U	500 U					
3-Nitroaniline	1200 U	1200 U					
Acenaphthene	460 U	500 U					
2,4-Dinitrophenol	1200 U	1200 U					
4-Nitrophenol	1200 U	1200 U					
Dibenzofuran	460 U	500 U					
2,4-Dinitrotoluene	460 U	500 U					
Diethylphthalate	460 U	41 J					
4-Chlorophenyl-phenylether	460 U	500 U					
Fluorene	460 U	500 U					
4-Nitroaniline	1200 U	1200 U					
4,6-Dinitro-2-methylphenol	1200 U	1200 U					
N-Nitrosodiphenylamine	460 U	500 U					
4-Bromophenyl-phenylether	460 U	500 U					
Hexachlorobenzene	460 U	500 U					

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR76

Reviewer: Yue-Mei Liu

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

SEMIVOLATILES	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R91	FF-R92					
Pentachlorophenol	1200 U	1200 U					
Phenanthrene	460 U	200 J					
Anthracene	460 U	37 J					
Carbazole	460 U	500 U					
Di-n-butylphthalate	460 U	73 J					
Fluoranthene	460 U	120 J					
Pyrene	460 U	170 J					
Butylbenzylphthalate	460 U	500 U					
3,3'-Dichlorobenzidine	460 U	500 U					
Benzo(a)anthracene	460 U	59 J					
Chrysene	460 U	69 J					
bis(2-Ethylhexyl)phthalate	460 U	500 U					
Di-n-octylphthalate	460 U	29 J					
Benzo(b)fluoranthene	460 U	38 J					
Benzo(k)fluoranthene	460 U	47 J					
Benzo(a)pyrene	460 U	51 J					
Indeno(1,2,3-cd)pyrene	460 U	30 J					
Dibenz(a,h)anthracene	460 U	500 U					
Benzo(g,h,i)perylene	460 U	42 J					
Sample wt (g):	30.0	30.0					
%Moisture:	29	34					
Dilution Factor:	1.0	1.0					
Level:	Low	Low					
Number of TIC's:	30	30					

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR76

Reviewer: Mike Fertitta

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

PESTICIDES/PCBS	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R76	FF-R76DL	FF-R81	FF-R82	FF-R83	FF-R83DL	FF-R85
alpha-BHC	20 U	200 U*	21 U	21 U	26 U	260 U*	20 U
beta-BHC	20 U	200 U*	21 U	21 U	26 U	260 U*	20 U
delta-BHC	20 U	200 U*	21 U	21 U	26 U	260 U*	20 U
gamma-BHC (lindane)	20 U	200 U*	21 U	21 U	26 U	260 U*	20 U
Heptachlor	20 U	200 U*	21 U	21 U	26 U	260 U*	20 U
Aldrin	20 U	200 U*	21 U	21 U	26 U	260 U*	20 U
Heptachlor epoxide	20 U	200 U*	21 U	21 U	26 U	260 U*	20 U
Endosulfan I	9.4 J	200 U*	21 U	21 U	26 U	260 U*	20 U
Dieldrin	39 U	390 U*	41 U	41 U	52 U	520 U*	39 U
4,4'-DDE	39 U	390 U*	41 U	41 U	52 U	520 U*	39 U
Endrin	1200 *	4500 U	200 U	190 U	1200 U	2300 *	39 U
Endosulfan II	130 *	390 U	41 U	41 U	52 U*	520 U	39 U
4,4'-DDD	39 U*	390 U	41 U	41 U	2.4 J	520 U*	39 U
Endosulfan sulfate	39 U*	390 U	41 U	41 U	52 U*	520 U	39 U
4,4'-DDT	39 U*	390 UJv	41 UJv	41 UJv	52 U*	520 UJv	39 U
Methoxychlor	200 U*	2000 U	210 U	210 U	260 U*	2600 U	200 U
Endrin ketone	280 *	1700 UJv	68 U	69 U	560 *	800 UJv	39 U
Endrin aldehyde	39 U*	390 U	41 U	41 U	52 U*	520 U	39 U
alpha-Chlordane	20 U	3.6 *	21 U	21 U	26 U	260 U*	20 U
gamma-Chlordane	100 U	130 *	21 U	21 U	47 U	59 *	20 U
Toxaphene	2000 U	20000 U*	2100 U	2100 U	2600 U	26000 U*	2000 U
Aroclor-1016	390 U	3900 U*	410 U	410 U	520 U	5200 U*	390 U
Aroclor-1221	790 U	7900 U*	840 U	820 U	1000 U	10000 U*	800 U
Aroclor-1232	390 U	3900 U*	410 U	410 U	520 U	5200 U*	390 U
Aroclor-1242	390 U	3900 U*	410 U	410 U	520 U	5200 U*	390 U
Aroclor-1248	390 U	3900 U*	410 U	410 U	520 U	5200 U*	390 U
Aroclor-1254	390 U	3900 U*	410 U	410 U	520 U	5200 U*	390 U
Aroclor-1260	18000 *	85000 J	2800 J	3000 J	21000 *	35000 J	420 J
Sample wt (g):	30.0	30.0	30.0	30.0	30.0	30.0	30.0
%Moisture:	15	15	36	35	36	36	33
Dilution Factor:	10.0	100.0	8.0	8.0	10.0	100.0	8.0

Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

ORGANIC DATA SUMMARY

Case No.: 25969

SDG: FFR76

Reviewer: Mike Fertitta

Laboratory: CLAYTN

Matrix: SOIL

Units: ug/Kg

PESTICIDES/PCBs	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG
EPA SAMPLE NUMBER:	FF-R86	FF-R87	FF-R91	FF-R92			
alpha-BHC	23 U	2.6 U	2.4 U	2.6 U			
beta-BHC	23 U	2.6 U	2.4 U	2.6 U			
delta-BHC	23 U	2.6 U	2.4 U	2.6 U			
gamma-BHC (lindane)	23 U	2.6 U	2.4 U	2.6 U			
Heptachlor	23 U	2.6 U	2.4 U	2.6 U			
Aldrin	23 U	2.6 U	2.4 U	2.6 U			
Heptachlor epoxide	23 U	2.6 U	2.4 U	2.6 U			
Endosulfan I	23 U	2.6 U	2.4 U	2.6 U			
Dieldrin	44 U	5.0 U	4.6 U	5.0 U			
4,4'-DDE	12 J	18 J	4.6 U	1.6 J			
Endrin	44 U	20 U	4.6 U	5.0 U			
Endosulfan II	44 U	5.0 U	4.6 U	5.0 U			
4,4'-DDD	44 U	5.0 U	4.6 U	5.0 U			
Endosulfan sulfate	44 U	5.0 U	4.6 U	5.0 U			
4,4'-DDT	44 U	5.0 UJv	4.6 U	5.0 U			
Methoxychlor	230 U	26 U	24 U	26 U			
Endrin ketone	44 U	6.9 U	4.6 U	5.0 U			
Endrin aldehyde	44 U	5.0 U	4.6 U	5.0 U			
alpha-Chlordane	23 U	2.6 U	2.4 U	2.6 U			
gamma-Chlordane	23 U	2.6 U	2.4 U	2.6 U			
Toxaphene	2300 U	260 U	240 U	260 U			
Aroclor-1016	440 U	50 U	46 U	50 U			
Aroclor-1221	890 U	100 U	94 U	100 U			
Aroclor-1232	440 U	50 U	46 U	50 U			
Aroclor-1242	440 U	50 U	46 U	50 U			
Aroclor-1248	440 U	50 U	46 U	50 U			
Aroclor-1254	440 U	50 U	46 U	50 U			
Aroclor-1260	730 J	340 J	46 U	33 J			
Sample wt (g):	30.0	30.0	30.0	30.0			
%Moisture:	40	34	29	34			
Dilution Factor:	8.0	1.0	1.0	1.0			

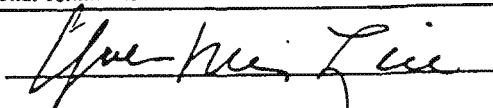
Note: For the results listed in the Data Summary Table, ESAT has replaced the laboratory assigned flags with ESAT Organic Data Qualifiers. The ESAT flags indicate the technical usability of the reported results.

INORGANIC/ORGANIC COMPLETE SDG FILE (CSF) INVENTORY CHECKLIST

Case No. 25969 SDG No. FFR76 SDG Nos. To Follow _____ SAS No. _____ Date Rec 02-23-98

EPA Lab ID: <u>CLAYTN</u> Lab Location: <u>22345 Roethal Drive. Nori. MI 48375</u> Region: <u>6</u> Audit No.: <u>25969/FFR76</u> Re_Submitted CSF? Yes _____ No <u>X</u> Box No(s): <u>1</u> COMMENTS: 3 Page number 341 was used twice and page number 342 was missing. The reviewer changed the second page 341 to 342. 3.13 The airbill number listed in the SDG Narrative did not agree with the number recorded on the Form DC-1 or the original airbill submitted. The laboratory was contacted for resolution.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;">ORIGINALS</th> <th style="width: 10%;">YES</th> <th style="width: 10%;">NO</th> <th style="width: 10%;">N/A</th> </tr> </thead> <tbody> <tr> <td colspan="4">CUSTODY SEALS</td> </tr> <tr> <td>1. Present on package?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>2. Intact upon receipt?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">FORM DC-2</td> </tr> <tr> <td>3. Numbering scheme accurate?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>4. Are enclosed documents listed?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>5. Are listed documents enclosed?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">FORM DC-1</td> </tr> <tr> <td>6. Present?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>7. Complete?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>8. Accurate?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">CHAIN-OF-CUSTODY RECORD(s)</td> </tr> <tr> <td>9. Signed?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>10. Dated?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">TRAFFIC REPORT(s) PACKING LIST(s)</td> </tr> <tr> <td>11. Signed?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>12. Dated?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">AIRBILLS/AIRBILL STICKER</td> </tr> <tr> <td>13. Present?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>14. Signed?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>15. Dated?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">SAMPLE TAGS</td> </tr> <tr> <td>16. Does DC-1 list tags as being included?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>17. Present?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td colspan="4">OTHER DOCUMENTS</td> </tr> <tr> <td>18. Complete?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>19. Legible?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>20. Original?</td> <td></td> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td>20a. If "NO", does the copy indicate where original documents are located?</td> <td></td> <td style="text-align: center;">X</td> <td></td> </tr> </tbody> </table>	ORIGINALS	YES	NO	N/A	CUSTODY SEALS				1. Present on package?	X			2. Intact upon receipt?	X			FORM DC-2				3. Numbering scheme accurate?	X			4. Are enclosed documents listed?	X			5. Are listed documents enclosed?	X			FORM DC-1				6. Present?	X			7. Complete?	X			8. Accurate?	X			CHAIN-OF-CUSTODY RECORD(s)				9. Signed?	X			10. Dated?	X			TRAFFIC REPORT(s) PACKING LIST(s)				11. Signed?	X			12. Dated?	X			AIRBILLS/AIRBILL STICKER				13. Present?	X			14. Signed?	X			15. Dated?	X			SAMPLE TAGS				16. Does DC-1 list tags as being included?	X			17. Present?	X			OTHER DOCUMENTS				18. Complete?	X			19. Legible?	X			20. Original?		X		20a. If "NO", does the copy indicate where original documents are located?		X	
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Over for additional comments.

Audited by: 
 Audited by: _____
 Audited by: _____

Signature

Yue-Mei Liu/ESAT Data Reviewer

Printed Name/Title

Date 03-04-98

Date _____
 Date _____

TO BE COMPLETED BY CEAT

Date Recvd by CEAT: _____ Date Entered: _____ Date Reviewed: _____
 Entered by: _____
 Reviewed by: _____

Signature

Printed Name/Title

In Reference To
Case 25969 SDG FFR76
ESAT File No. O-1886

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: March 2, 1998
Laboratory Name: CLAYTN
Lab Contact: Kelly Kolb
Region: 6
Regional Contact: Michael J. Fertitta - ESAT
Call initiated by: Laboratory X Region

In reference to data for the Pest/PCB fraction:

Summary of Questions/Issues:

The laboratory did not submit GC/MS confirmation documents for AR1260 in sample FF-R81, although the reviewer calculated sufficient concentration.

Resolution:

Ms. Kolb will ask the Pest/PCB analyst to verify whether confirmation was performed and will call back.

Michael J. Fertitta
Signature

03/02/98
Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) ESAT Copy

In Reference To
Case 25969 SDG FFR76
ESAT File No. Q-1886
Page 1 of 2 Pages

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

FAX Record Log

Date of FAX: March 5, 1998
Laboratory Name: CLAYTN
Lab Contact: Kelly Kolb
Region: 6
Regional Contact: Mahmoud El-Feky - EPA
ESAT Reviewer: Michael J. Fertitta - ESAT
FAX initiated by: Laboratory X Region

In reference to data for the following fractions:

CSF Deliverables Pest/PCB

Summary of Questions/Issues:

A. CSF Deliverables

The airbill number mentioned in the SDG narrative (#2423938635, page 1a) does not agree with the number listed on the original airbill (#2423938436, page 1735) or the number on Forms DC-1 (pages 1749-1750). Please clarify.

B. Pest/PCB

1. As discussed by phone, GC/MS confirmation documents were not submitted for AR1260 in sample FF-R81, although the reviewer calculated sufficient concentration. Thank you for your prompt FAX containing the documents in question. At this time, please submit these original pages 1040A and 1040B, but please also resubmit the Form 1 for sample FF-R81 (page 1029) with a "C" flag added to the AR1260 result.
2. Dilutions did not seem to be necessary for samples FF-R85 and FF-R86 based on the quantitation reports. Please explain why these two samples were diluted.

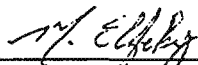
NOTE: Any laboratory resubmission should be submitted either as an addendum to the original CSF with a revised Form DC-2 or submitted as a new CSF with a new Form DC-2 (OLM03.0, p. B-22), except those containing only replacement pages. Custody seals are required for all CSF resubmission shipments.

In Reference To
Case 25969 SDG FFR76
ESAT File No. Q-1886
Page 2 of 2 Pages

Please respond to the above items. Region 6 resubmissions may be included with CCS response or sent separately within 7 days to:

Mr. Mahmoud El-Feky
U.S. EPA Region 6 Laboratory
10625 Fallstone Road
Houston, TX 77099

If you have any questions, please contact me at (281) 983-2128.



Signature

03/05/98

Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) ESAT Copy

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR76

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-001

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9053

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 17

Date Analyzed: 1/19/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	12.	U
74-83-9-----	Bromomethane	12.	U
75-01-4-----	Vinyl Chloride	12.	U
75-00-3-----	Chloroethane	12.	U
75-09-2-----	Methylene Chloride	6.	JB
67-64-1-----	Acetone	√74.	B
75-15-0-----	Carbon Disulfide	2.	JB
75-35-4-----	1,1-Dichloroethene	12.	U
75-34-3-----	1,1-Dichloroethane	12.	U
540-59-0-----	1,2-Dichloroethene (total)	12.	U
67-66-3-----	Chloroform	12.	U
107-06-2-----	1,2-Dichloroethane	12.	U
78-93-3-----	2-Butanone	4.	JB
71-55-6-----	1,1,1-Trichloroethane	12.	U
56-23-5-----	Carbon Tetrachloride	12.	U
75-27-4-----	Bromodichloromethane	12.	U
78-87-5-----	1,2-Dichloropropane	12.	U
10061-01-5-----	cis-1,3-Dichloropropene	12.	U
79-01-6-----	Trichloroethene	12.	U
124-48-1-----	Dibromochloromethane	12.	U
79-00-5-----	1,1,2-Trichloroethane	12.	U
71-43-2-----	Benzene	12.	U
10061-02-6-----	trans-1,3-Dichloropropene	12.	U
75-25-2-----	Bromoform	12.	U
108-10-1-----	4-Methyl-2-Pentanone	12.	U
591-78-6-----	2-Hexanone	12.	U
127-18-4-----	Tetrachloroethene	12.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	12.	U
108-88-3-----	Toluene	12.	U
108-90-7-----	Chlorobenzene	12.	U
100-41-4-----	Ethylbenzene	12.	U
100-42-5-----	Styrene	12.	U
1330-20-7-----	Xylene (total)	12.	U

FORM I VOA

0016

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR81

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-002

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9054

Level: (low/med) LOW

Date Received: 1/15/98 /

% Moisture: not dec. 37

Date Analyzed: 1/19/98 /

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	✓16.	U
74-83-9-----	Bromomethane	16.	U
75-01-4-----	Vinyl Chloride	16.	U
75-00-3-----	Chloroethane	16.	U
75-09-2-----	Methylene Chloride	✓3.	JB
67-64-1-----	Acetone	✓86.	B
75-15-0-----	Carbon Disulfide	16.	U
75-35-4-----	1,1-Dichloroethene	16.	U
75-34-3-----	1,1-Dichloroethane	16.	U
540-59-0-----	1,2-Dichloroethene (total)	16.	U
67-66-3-----	Chloroform	16.	U
107-06-2-----	1,2-Dichloroethane	16.	U
78-93-3-----	2-Butanone	7.	JB
71-55-6-----	1,1,1-Trichloroethane	16.	U
56-23-5-----	Carbon Tetrachloride	16.	U
75-27-4-----	Bromodichloromethane	16.	U
78-87-5-----	1,2-Dichloropropane	16.	U
10061-01-5-----	cis-1,3-Dichloropropene	16.	U
79-01-6-----	Trichloroethene	16.	U
124-48-1-----	Dibromochloromethane	16.	U
79-00-5-----	1,1,2-Trichloroethane	16.	U
71-43-2-----	Benzene	16.	U
10061-02-6-----	trans-1,3-Dichloropropene	16.	U
75-25-2-----	Bromoform	16.	U
108-10-1-----	4-Methyl-2-Pentanone	16.	U
591-78-6-----	2-Hexanone	16.	U
127-18-4-----	Tetrachloroethene	16.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	16.	U
108-88-3-----	Toluene	16.	U
108-90-7-----	Chlorobenzene	16.	U
100-41-4-----	Ethylbenzene	16.	U
100-42-5-----	Styrene	16.	U
1330-20-7-----	Xylene (total)	16.	U

FORM I VOA

0033

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR82

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-003

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9055

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 38

Date Analyzed: 1/19/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	16.	U
74-83-9-----	Bromomethane	16.	U
75-01-4-----	Vinyl Chloride	16.	U
75-00-3-----	Chloroethane	16.	U
75-09-2-----	Methylene Chloride	4.	JB
67-64-1-----	Acetone	82.	B
75-15-0-----	Carbon Disulfide	16.	U
75-35-4-----	1,1-Dichloroethene	16.	U
75-34-3-----	1,1-Dichloroethane	16.	U
540-59-0-----	1,2-Dichloroethene (total)	16.	U
67-66-3-----	Chloroform	16.	U
107-06-2-----	1,2-Dichloroethane	16.	U
78-93-3-----	2-Butanone	9.	JB
71-55-6-----	1,1,1-Trichloroethane	16.	U
56-23-5-----	Carbon Tetrachloride	16.	U
75-27-4-----	Bromodichloromethane	16.	U
78-87-5-----	1,2-Dichloropropane	16.	U
10061-01-5-----	cis-1,3-Dichloropropene	16.	U
79-01-6-----	Trichloroethene	16.	U
124-48-1-----	Dibromochloromethane	16.	U
79-00-5-----	1,1,2-Trichloroethane	16.	U
71-43-2-----	Benzene	16.	U
10061-02-6-----	trans-1,3-Dichloropropene	16.	U
75-25-2-----	Bromoform	16.	U
108-10-1-----	4-Methyl-2-Pentanone	16.	U
591-78-6-----	2-Hexanone	16.	U
127-18-4-----	Tetrachloroethene	16.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	16.	U
108-88-3-----	Toluene	16.	U
108-90-7-----	Chlorobenzene	16.	U
100-41-4-----	Ethylbenzene	16.	U
100-42-5-----	Styrene	16.	U
1330-20-7-----	Xylene (total)	16.	U

FORM I VOA

0048

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR83

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-004

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9144

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 25

Date Analyzed: 1/22/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	✓ 13.	U
74-83-9-----	Bromomethane	13.	U
75-01-4-----	Vinyl Chloride	13.	U
75-00-3-----	Chloroethane	✓ 13.	U
75-09-2-----	Methylene Chloride	✓ 7.	JB
67-64-1-----	Acetone	7.	JB
75-15-0-----	Carbon Disulfide	13.	U
75-35-4-----	1,1-Dichloroethene	13.	U
75-34-3-----	1,1-Dichloroethane	13.	U
540-59-0-----	1,2-Dichloroethene (total)	13.	U
67-66-3-----	Chloroform	13.	U
107-06-2-----	1,2-Dichloroethane	13.	U
78-93-3-----	2-Butanone	13.	U
71-55-6-----	1,1,1-Trichloroethane	13.	U
56-23-5-----	Carbon Tetrachloride	13.	U
75-27-4-----	Bromodichloromethane	13.	U
78-87-5-----	1,2-Dichloropropane	13.	U
10061-01-5-----	cis-1,3-Dichloropropene	13.	U
79-01-6-----	Trichloroethene	13.	U
124-48-1-----	Dibromochloromethane	13.	U
79-00-5-----	1,1,2-Trichloroethane	13.	U
71-43-2-----	Benzene	13.	U
10061-02-6-----	trans-1,3-Dichloropropene	13.	U
75-25-2-----	Bromoform	13.	U
108-10-1-----	4-Methyl-2-Pentanone	13.	U
591-78-6-----	2-Hexanone	13.	U
127-18-4-----	Tetrachloroethene	13.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	13.	U
108-88-3-----	Toluene	13.	U
108-90-7-----	Chlorobenzene	13.	U
100-41-4-----	Ethylbenzene	13.	U
100-42-5-----	Styrene	13.	U
1330-20-7-----	Xylene (total)	13.	U

FORM I VOA

0063

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR85

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-005

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9042

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 30

Date Analyzed: 1/16/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	14.	U
74-83-9-----	Bromomethane	14.	U
75-01-4-----	Vinyl Chloride	14.	U
75-00-3-----	Chloroethane	14.	U
75-09-2-----	Methylene Chloride	4.	JB
67-64-1-----	Acetone	✓ 4.	JB
75-15-0-----	Carbon Disulfide	14.	U
75-35-4-----	1,1-Dichloroethene	14.	U
75-34-3-----	1,1-Dichloroethane	14.	U
540-59-0-----	1,2-Dichloroethene (total)	14.	U
67-66-3-----	Chloroform	14.	U
107-06-2-----	1,2-Dichloroethane	14.	U
78-93-3-----	2-Butanone	14.	U
71-55-6-----	1,1,1-Trichloroethane	14.	U
56-23-5-----	Carbon Tetrachloride	14.	U
75-27-4-----	Bromodichloromethane	14.	U
78-87-5-----	1,2-Dichloropropane	14.	U
10061-01-5-----	cis-1,3-Dichloropropene	14.	U
79-01-6-----	Trichloroethene	14.	U
124-48-1-----	Dibromochloromethane	14.	U
79-00-5-----	1,1,2-Trichloroethane	14.	U
71-43-2-----	Benzene	14.	U
10061-02-6-----	trans-1,3-Dichloropropene	14.	U
75-25-2-----	Bromoform	14.	U
108-10-1-----	4-Methyl-2-Pentanone	14.	U
591-78-6-----	2-Hexanone	14.	U
127-18-4-----	Tetrachloroethene	14.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	14.	U
108-88-3-----	Toluene	14.	U
108-90-7-----	Chlorobenzene	14.	U
100-41-4-----	Ethylbenzene	14.	U
100-42-5-----	Styrene	14.	U
1330-20-7-----	Xylene (total)	14.	U

FORM I VOA

0077

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR86

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-006

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9043

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 33

Date Analyzed: 1/16/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0 (uL)

Soil Aliquot Volume:0 (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	15.	U
74-83-9-----	Bromomethane	15.	U
75-01-4-----	Vinyl Chloride	15.	U
75-00-3-----	Chloroethane	15.	U
75-09-2-----	Methylene Chloride	4.	JB
67-64-1-----	Acetone	6.	JB
75-15-0-----	Carbon Disulfide	15.	U
75-35-4-----	1,1-Dichloroethene	15.	U
75-34-3-----	1,1-Dichloroethane	15.	U
540-59-0-----	1,2-Dichloroethene (total)	15.	U
67-66-3-----	Chloroform	15.	U
107-06-2-----	1,2-Dichloroethane	15.	U
78-93-3-----	2-Butanone	15.	U
71-55-6-----	1,1,1-Trichloroethane	15.	U
56-23-5-----	Carbon Tetrachloride	15.	U
75-27-4-----	Bromodichloromethane	15.	U
78-87-5-----	1,2-Dichloropropane	15.	U
10061-01-5-----	cis-1,3-Dichloropropene	15.	U
79-01-6-----	Trichloroethene	15.	U
124-48-1-----	Dibromochloromethane	15.	U
79-00-5-----	1,1,2-Trichloroethane	15.	U
71-43-2-----	Benzene	15.	U
10061-02-6-----	trans-1,3-Dichloropropene	15.	U
75-25-2-----	Bromoform	15.	U
108-10-1-----	4-Methyl-2-Pentanone	15.	U
591-78-6-----	2-Hexanone	15.	U
127-18-4-----	Tetrachloroethene	15.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	15.	U
108-88-3-----	Toluene	15.	U
108-90-7-----	Chlorobenzene	15.	U
100-41-4-----	Ethylbenzene	15.	U
100-42-5-----	Styrene	15.	U
1330-20-7-----	Xylene (total)	15.	U

FORM I VOA

90
OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR87

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-007

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9044

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 32

Date Analyzed: 1/16/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	15.	U
74-83-9-----	Bromomethane	15.	U
75-01-4-----	Vinyl Chloride	15.	U
75-00-3-----	Chloroethane	15.	U
75-09-2-----	Methylene Chloride	3.	JB
67-64-1-----	Acetone	5.	JB
75-15-0-----	Carbon Disulfide	15.	U
75-35-4-----	1,1-Dichloroethene	15.	U
75-34-3-----	1,1-Dichloroethane	15.	U
540-59-0-----	1,2-Dichloroethene (total)	15.	U
67-66-3-----	Chloroform	15.	U
107-06-2-----	1,2-Dichloroethane	15.	U
78-93-3-----	2-Butanone	15.	U
71-55-6-----	1,1,1-Trichloroethane	15.	U
56-23-5-----	Carbon Tetrachloride	15.	U
75-27-4-----	Bromodichloromethane	15.	U
78-87-5-----	1,2-Dichloropropane	15.	U
10061-01-5-----	cis-1,3-Dichloropropene	15.	U
79-01-6-----	Trichloroethene	15.	U
124-48-1-----	Dibromochloromethane	15.	U
79-00-5-----	1,1,2-Trichloroethane	15.	U
71-43-2-----	Benzene	15.	U
10061-02-6-----	trans-1,3-Dichloropropene	15.	U
75-25-2-----	Bromoform	15.	U
108-10-1-----	4-Methyl-2-Pentanone	15.	U
591-78-6-----	2-Hexanone	15.	U
127-18-4-----	Tetrachloroethene	15.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	15.	U
108-88-3-----	Toluene	15.	U
108-90-7-----	Chlorobenzene	15.	U
100-41-4-----	Ethylbenzene	15.	U
100-42-5-----	Styrene	15.	U
1330-20-7-----	Xylene (total)	15.	U

FORM I VOA

0103

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR91

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-008

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9045

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 26

Date Analyzed: 1/17/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	14.	U
74-83-9-----	Bromomethane	14.	U
75-01-4-----	Vinyl Chloride	14.	U
75-00-3-----	Chloroethane	14.	U
75-09-2-----	Methylene Chloride	2.	JB
67-64-1-----	Acetone	6.	JB
75-15-0-----	Carbon Disulfide	14.	U
75-35-4-----	1,1-Dichloroethene	14.	U
75-34-3-----	1,1-Dichloroethane	14.	U
540-59-0-----	1,2-Dichloroethene (total)	14.	U
67-66-3-----	Chloroform	14.	U
107-06-2-----	1,2-Dichloroethane	14.	U
78-93-3-----	2-Butanone	14.	U
71-55-6-----	1,1,1-Trichloroethane	14.	U
56-23-5-----	Carbon Tetrachloride	14.	U
75-27-4-----	Bromodichloromethane	14.	U
78-87-5-----	1,2-Dichloropropane	14.	U
10061-01-5-----	cis-1,3-Dichloropropene	14.	U
79-01-6-----	Trichloroethene	14.	U
124-48-1-----	Dibromochloromethane	14.	U
79-00-5-----	1,1,2-Trichloroethane	14.	U
71-43-2-----	Benzene	14.	U
10061-02-6-----	trans-1,3-Dichloropropene	14.	U
75-25-2-----	Bromoform	14.	U
108-10-1-----	4-Methyl-2-Pentanone	14.	U
591-78-6-----	2-Hexanone	14.	U
127-18-4-----	Tetrachloroethene	14.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	14.	U
108-88-3-----	Toluene	14.	U
108-90-7-----	Chlorobenzene	14.	U
100-41-4-----	Ethylbenzene	14.	U
100-42-5-----	Styrene	14.	U
1330-20-7-----	Xylene (total)	14.	U

FORM I VOA

0115

OLM03.0

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR92

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-009

Sample wt/vol: 5.00 (g/ml) G

Lab File ID: B9046

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: not dec. 34

Date Analyzed: 1/17/98

GC Column:DB-624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:0

(uL)

Soil Aliquot Volume:0

(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

74-87-3-----	Chloromethane	15.	U
74-83-9-----	Bromomethane	15.	U
75-01-4-----	Vinyl Chloride	15.	U
75-00-3-----	Chloroethane	15.	U
75-09-2-----	Methylene Chloride	3.	JB
67-64-1-----	Acetone	10.	JB
75-15-0-----	Carbon Disulfide	15.	U
75-35-4-----	1,1-Dichloroethene	15.	U
75-34-3-----	1,1-Dichloroethane	15.	U
540-59-0-----	1,2-Dichloroethene (total)	15.	U
67-66-3-----	Chloroform	15.	U
107-06-2-----	1,2-Dichloroethane	15.	U
78-93-3-----	2-Butanone	15.	U
71-55-6-----	1,1,1-Trichloroethane	15.	U
56-23-5-----	Carbon Tetrachloride	15.	U
75-27-4-----	Bromodichloromethane	15.	U
78-87-5-----	1,2-Dichloropropane	15.	U
10061-01-5-----	cis-1,3-Dichloropropene	15.	U
79-01-6-----	Trichloroethene	15.	U
124-48-1-----	Dibromochloromethane	15.	U
79-00-5-----	1,1,2-Trichloroethane	15.	U
71-43-2-----	Benzene	15.	U
10061-02-6-----	trans-1,3-Dichloropropene	15.	U
75-25-2-----	Bromoform	15.	U
108-10-1-----	4-Methyl-2-Pentanone	15.	U
591-78-6-----	2-Hexanone	15.	U
127-18-4-----	Tetrachloroethene	15.	U
79-34-5-----	1,1,2,2-Tetrachloroethane	15.	U
108-88-3-----	Toluene	15.	U
108-90-7-----	Chlorobenzene	15.	U
100-41-4-----	Ethylbenzene	15.	U
100-42-5-----	Styrene	15.	U
1330-20-7-----	Xylene (total)	15.	U

FORM I VOA

0129

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR76

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR76
Matrix: (soil/water) SOIL Lab Sample ID: 58073-001
Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1951 /
Level: (low/med) LOW Date Received: 1/15/98 /
% Moisture: 15 decanted: (Y/N) N Date Extracted: 1/19/98 /
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/22/98 /
Injection Volume: 2.0 (uL) Dilution Factor: 1.0 /
GPC Cleanup: (Y/N) Y / pH: 8.1

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	390.	U
111-44-4-----	bis(2-Chloroethyl)ether	390.	U
95-57-8-----	2-Chlorophenol	390.	U
541-73-1-----	1,3-Dichlorobenzene	390.	U
106-46-7-----	1,4-Dichlorobenzene	390.	U
95-50-1-----	1,2-Dichlorobenzene	390.	U
95-48-7-----	2-Methylphenol	390.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	390.	U
106-44-5-----	4-Methylphenol	390.	U
621-64-7-----	N-Nitroso-di-n-propylamine	390.	U
67-72-1-----	Hexachloroethane	390.	U
98-95-3-----	Nitrobenzene	390.	U
78-59-1-----	Isophorone	390.	U
88-75-5-----	2-Nitrophenol	390.	U
105-67-9-----	2,4-Dimethylphenol	390.	U
111-91-1-----	bis(2-Chloroethoxy)methane	390.	U
120-83-2-----	2,4-Dichlorophenol	390.	U
120-82-1-----	1,2,4-Trichlorobenzene	390.	U
91-20-3-----	Naphthalene	390.	U
106-47-8-----	4-Chloroaniline	390.	U
87-68-3-----	Hexachlorobutadiene	390.	U
59-50-7-----	4-Chloro-3-methylphenol	390.	U
91-57-6-----	2-Methylnaphthalene	390.	U
77-47-4-----	Hexachlorocyclopentadiene	390.	U
88-06-2-----	2,4,6-Trichlorophenol	390.	U
95-95-4-----	2,4,5-Trichlorophenol	980.	U
91-58-7-----	2-Chloronaphthalene	390.	U
88-74-4-----	2-Nitroaniline	980.	U
131-11-3-----	Dimethylphthalate	390.	U
208-96-8-----	Acenaphthylene	390.	U
606-20-2-----	2,6-Dinitrotoluene	390.	U
99-09-2-----	3-Nitroaniline	980.	U
83-32-9-----	Acenaphthene	390.	U

FORM I SV-1

0269

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR76

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR76
Matrix: (soil/water) SOIL Lab Sample ID: 58073-001
Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1951
Level: (low/med) LOW Date Received: 1/15/98
% Moisture: 15 decanted: (Y/N) N Date Extracted: 1/19/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/22/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 8.1

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	980.	U
100-02-7-----	4-Nitrophenol	980.	U
132-64-9-----	Dibenzofuran	390.	U
121-14-2-----	2,4-Dinitrotoluene	390.	U
84-66-2-----	Diethylphthalate	21.	J
7005-72-3-----	4-Chlorophenyl-phenylether	390.	U
86-73-7-----	Fluorene	390.	U
100-01-6-----	4-Nitroaniline	980.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	980.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	390.	U
101-55-3-----	4-Bromophenyl-phenylether	390.	U
118-74-1-----	Hexachlorobenzene	390.	U
87-86-5-----	Pentachlorophenol	980.	U
85-01-8-----	Phenanthrene	27.	J
120-12-7-----	Anthracene	390.	U
86-74-8-----	Carbazole	390.	U
84-74-2-----	Di-n-butylphthalate	20.	J
206-44-0-----	Fluoranthene	390.	U
129-00-0-----	Pyrene	390.	U
85-68-7-----	Butylbenzylphthalate	390.	U
91-94-1-----	3,3'-Dichlorobenzidine	390.	U
56-55-3-----	Benzo(a)anthracene	390.	U
218-01-9-----	Chrysene	390.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	53.	JB
117-84-0-----	Di-n-octylphthalate	390.	U
205-99-2-----	Benzo(b)fluoranthene	390.	U
207-08-9-----	Benzo(k)fluoranthene	20.	J
50-32-8-----	Benzo(a)pyrene	390.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	390.	U
53-70-3-----	Dibenz(a,h)anthracene	390.	U
191-24-2-----	Benzo(g,h,i)perylene	390.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

0270

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR81

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-002

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G1952 /

Level: (low/med) LOW

Date Received: 1/15/98 /

% Moisture: 36 decanted: (Y/N) N

Date Extracted: 1/19/98 /

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/22/98 /

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0 /

GPC Cleanup: (Y/N) Y pH: 8.3

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

108-95-2-----	Phenol	31.	J
111-44-4-----	bis(2-Chloroethyl)ether	520.	U
95-57-8-----	2-Chlorophenol	520.	U
541-73-1-----	1,3-Dichlorobenzene	520.	U
106-46-7-----	1,4-Dichlorobenzene	520.	U
95-50-1-----	1,2-Dichlorobenzene	520.	U
95-48-7-----	2-Methylphenol	520.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	520.	U
106-44-5-----	4-Methylphenol	520.	U
621-64-7-----	N-Nitroso-di-n-propylamine	520.	U
67-72-1-----	Hexachloroethane	520.	U
98-95-3-----	Nitrobenzene	520.	U
78-59-1-----	Isophorone	520.	U
88-75-5-----	2-Nitrophenol	520.	U
105-67-9-----	2,4-Dimethylphenol	520.	U
111-91-1-----	bis(2-Chloroethoxy)methane	520.	U
120-83-2-----	2,4-Dichlorophenol	520.	U
120-82-1-----	1,2,4-Trichlorobenzene	520.	U
91-20-3-----	Naphthalene	520.	U
106-47-8-----	4-Chloroaniline	520.	U
87-68-3-----	Hexachlorobutadiene	520.	U
59-50-7-----	4-Chloro-3-methylphenol	520.	U
91-57-6-----	2-Methylnaphthalene	520.	U
77-47-4-----	Hexachlorocyclopentadiene	520.	U
88-06-2-----	2,4,6-Trichlorophenol	520.	U
95-95-4-----	2,4,5-Trichlorophenol	1300.	U
91-58-7-----	2-Chloronaphthalene	520.	U
88-74-4-----	2-Nitroaniline	1300.	U
131-11-3-----	Dimethylphthalate	520.	U
208-96-8-----	Acenaphthylene	520.	U
606-20-2-----	2,6-Dinitrotoluene	520.	U
99-09-2-----	3-Nitroaniline	1300.	U
83-32-9-----	Acenaphthene	520.	U

FORM I SV-1

0330

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR81

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-002

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G1952 /

Level: (low/med) LOW

Date Received: 1/15/98 /

% Moisture: 36 decanted: (Y/N) N

Date Extracted: 1/19/98 /

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/22/98 /

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0 /

GPC Cleanup: (Y/N) Y / pH: 8.3

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	1300.	U
100-02-7-----	4-Nitrophenol	1300.	U
132-64-9-----	Dibenzofuran	520.	U
121-14-2-----	2,4-Dinitrotoluene	520.	U
84-66-2-----	Diethylphthalate	33.	J
7005-72-3-----	4-Chlorophenyl-phenylether	520.	U
86-73-7-----	Fluorene	520.	U
100-01-6-----	4-Nitroaniline	1300.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1300.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	520.	U
101-55-3-----	4-Bromophenyl-phenylether	520.	U
118-74-1-----	Hexachlorobenzene	520.	U
87-86-5-----	Pentachlorophenol	1300.	U
85-01-8-----	Phenanthrene	290.	J
120-12-7-----	Anthracene	44.	J
86-74-8-----	Carbazole	50.	J
84-74-2-----	Di-n-butylphthalate	41.	J
206-44-0-----	Fluoranthene	✓ 620.	
129-00-0-----	Pyrene	510.	J
85-68-7-----	Butylbenzylphthalate	29.	J
91-94-1-----	3,3'-Dichlorobenzidine	520.	U
56-55-3-----	Benzo(a)anthracene	220.	J
218-01-9-----	Chrysene	✓ 470.	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	✓ 600.	B
117-84-0-----	Di-n-octylphthalate	520.	U
205-99-2-----	Benzo(b)fluoranthene	380.	J
207-08-9-----	Benzo(k)fluoranthene	300.	J
50-32-8-----	Benzo(a)pyrene	310.	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	360.	J
53-70-3-----	Dibenz(a,h)anthracene	520.	U
191-24-2-----	Benzo(g,h,i)perylene	420.	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

0331

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

FFR82

Lab Code: CLAYTN Case No.: 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-003

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G1953

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: 35 decanted: (Y/N) N

Date Extracted: 1/19/98

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/22/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.7

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

108-95-2-----	Phenol	49.	J
111-44-4-----	bis(2-Chloroethyl)ether	510.	U
95-57-8-----	2-Chlorophenol	510.	U
541-73-1-----	1,3-Dichlorobenzene	510.	U
106-46-7-----	1,4-Dichlorobenzene	510.	U
95-50-1-----	1,2-Dichlorobenzene	510.	U
95-48-7-----	2-Methylphenol	510.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	510.	U
106-44-5-----	4-Methylphenol	510.	U
621-64-7-----	N-Nitroso-di-n-propylamine	510.	U
67-72-1-----	Hexachloroethane	510.	U
98-95-3-----	Nitrobenzene	510.	U
78-59-1-----	Isophorone	510.	U
88-75-5-----	2-Nitrophenol	510.	U
105-67-9-----	2,4-Dimethylphenol	510.	U
111-91-1-----	bis(2-Chloroethoxy)methane	510.	U
120-83-2-----	2,4-Dichlorophenol	510.	U
120-82-1-----	1,2,4-Trichlorobenzene	510.	U
91-20-3-----	Naphthalene	510.	U
106-47-8-----	4-Chloroaniline	510.	U
87-68-3-----	Hexachlorobutadiene	510.	U
59-50-7-----	4-Chloro-3-methylphenol	510.	U
91-57-6-----	2-Methylnaphthalene	510.	U
77-47-4-----	Hexachlorocyclopentadiene	510.	U
88-06-2-----	2,4,6-Trichlorophenol	510.	U
95-95-4-----	2,4,5-Trichlorophenol	1300.	U
91-58-7-----	2-Chloronaphthalene	510.	U
88-74-4-----	2-Nitroaniline	1300.	U
131-11-3-----	Dimethylphthalate	510.	U
208-96-8-----	Acenaphthylene	510.	U
606-20-2-----	2,6-Dinitrotoluene	510.	U
99-09-2-----	3-Nitroaniline	1300.	U
83-32-9-----	Acenaphthene	510.	U

FORM I SV-1

0400

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR82

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-003

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G1953

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: 35 decanted: (Y/N) N

Date Extracted: 1/19/98

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/22/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 8.7

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5-----	2,4-Dinitrophenol	1300.	U
100-02-7-----	4-Nitrophenol	1300.	U
132-64-9-----	Dibenzofuran	510.	U
121-14-2-----	2,4-Dinitrotoluene	510.	U
84-66-2-----	Diethylphthalate	27.	J
7005-72-3-----	4-Chlorophenyl-phenylether	510.	U
86-73-7-----	Fluorene	510.	U
100-01-6-----	4-Nitroaniline	1300.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1300.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	510.	U
101-55-3-----	4-Bromophenyl-phenylether	510.	U
118-74-1-----	Hexachlorobenzene	510.	U
87-86-5-----	Pentachlorophenol	1300.	U
85-01-8-----	Phenanthrene	170.	J
120-12-7-----	Anthracene	34.	J
86-74-8-----	Carbazole	37.	J
84-74-2-----	Di-n-butylphthalate	30.	J
206-44-0-----	Fluoranthene	470.	J
129-00-0-----	Pyrene	✓ 410.	J
85-68-7-----	Butylbenzylphthalate	510.	U
91-94-1-----	3,3'-Dichlorobenzidine	510.	U
56-55-3-----	Benzo(a)anthracene	190.	J
218-01-9-----	Chrysene	410.	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	410.	JB
117-84-0-----	Di-n-octylphthalate	510.	U
205-99-2-----	Benzo(b)fluoranthene	340.	J
207-08-9-----	Benzo(k)fluoranthene	250.	J
50-32-8-----	Benzo(a)pyrene	250.	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	320.	J
53-70-3-----	Dibenz(a,h)anthracene	84.	J
191-24-2-----	Benzo(g,h,i)perylene	✓ 320.	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

0401

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR83

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR76
Matrix: (soil/water) SOIL Lab Sample ID: 58073-004
Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1954
Level: (low/med) LOW Date Received: 1/15/98
% Moisture: 36 decanted: (Y/N) N Date Extracted: 1/19/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/22/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 9.1

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	46.	J
111-44-4-----	bis(2-Chloroethyl)ether	520.	U
95-57-8-----	2-Chlorophenol	520.	U
541-73-1-----	1,3-Dichlorobenzene	520.	U
106-46-7-----	1,4-Dichlorobenzene	520.	U
95-50-1-----	1,2-Dichlorobenzene	520.	U
95-48-7-----	2-Methylphenol	520.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	520.	U
106-44-5-----	4-Methylphenol	520.	U
621-64-7-----	N-Nitroso-di-n-propylamine	520.	U
67-72-1-----	Hexachloroethane	520.	U
98-95-3-----	Nitrobenzene	520.	U
78-59-1-----	Isophorone	520.	U
88-75-5-----	2-Nitrophenol	520.	U
105-67-9-----	2,4-Dimethylphenol	520.	U
111-91-1-----	bis(2-Chloroethoxy)methane	520.	U
120-83-2-----	2,4-Dichlorophenol	520.	U
120-82-1-----	1,2,4-Trichlorobenzene	520.	U
91-20-3-----	Naphthalene	520.	U
106-47-8-----	4-Chloroaniline	520.	U
87-68-3-----	Hexachlorobutadiene	520.	U
59-50-7-----	4-Chloro-3-methylphenol	520.	U
91-57-6-----	2-Methylnaphthalene	520.	U
77-47-4-----	Hexachlorocyclopentadiene	520.	U
88-06-2-----	2,4,6-Trichlorophenol	520.	U
95-95-4-----	2,4,5-Trichlorophenol	1300.	U
91-58-7-----	2-Chloronaphthalene	520.	U
88-74-4-----	2-Nitroaniline	1300.	U
131-11-3-----	Dimethylphthalate	520.	U
208-96-8-----	Acenaphthylene	27.	J
606-20-2-----	2,6-Dinitrotoluene	520.	U
99-09-2-----	3-Nitroaniline	1300.	U
83-32-9-----	Acenaphthene	520.	U

FORM I SV-1

OLM03.0

0466

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR83

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR76
Matrix: (soil/water) SOIL Lab Sample ID: 58073-004
Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1954
Level: (low/med) LOW Date Received: 1/15/98
% Moisture: 36 decanted: (Y/N) N Date Extracted: 1/19/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/22/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 9.1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
51-28-5-----	2,4-Dinitrophenol	1300.	U
100-02-7-----	4-Nitrophenol	1300.	U
132-64-9-----	Dibenzofuran	520.	U
121-14-2-----	2,4-Dinitrotoluene	520.	U
84-66-2-----	Diethylphthalate	32.	J
7005-72-3-----	4-Chlorophenyl-phenylether	520.	U
86-73-7-----	Fluorene	520.	U
100-01-6-----	4-Nitroaniline	1300.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1300.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	520.	U
101-55-3-----	4-Bromophenyl-phenylether	520.	U
118-74-1-----	Hexachlorobenzene	520.	U
87-86-5-----	Pentachlorophenol	1300.	U
85-01-8-----	Phenanthrene	420.	J
120-12-7-----	Anthracene	77.	J
86-74-8-----	Carbazole	93.	J
84-74-2-----	Di-n-butylphthalate	150.	J
206-44-0-----	Fluoranthene	1200.	
129-00-0-----	Pyrene	1000.	
85-68-7-----	Butylbenzylphthalate	67.	J
91-94-1-----	3,3'-Dichlorobenzidine	520.	U
56-55-3-----	Benzo(a)anthracene	580.	
218-01-9-----	Chrysene	1100.	
117-81-7-----	bis(2-Ethylhexyl)phthalate	710.	B
117-84-0-----	Di-n-octylphthalate	520.	U
205-99-2-----	Benzo(b)fluoranthene	1400.	
207-08-9-----	Benzo(k)fluoranthene	1000.	
50-32-8-----	Benzo(a)pyrene	840.	
193-39-5-----	Indeno(1,2,3-cd)pyrene	1400.	
53-70-3-----	Dibenz(a,h)anthracene	520.	U
191-24-2-----	Benzo(g,h,i)perylene	1500.	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

0467

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR85

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-005

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G1957

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: 33 decanted: (Y/N) N

Date Extracted: 1/19/98

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/22/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 9.2

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

108-95-2-----	Phenol	27.	J
111-44-4-----	bis(2-Chloroethyl)ether	490.	U
95-57-8-----	2-Chlorophenol	490.	U
541-73-1-----	1,3-Dichlorobenzene	490.	U
106-46-7-----	1,4-Dichlorobenzene	490.	U
95-50-1-----	1,2-Dichlorobenzene	490.	U
95-48-7-----	2-Methylphenol	490.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	490.	U
106-44-5-----	4-Methylphenol	490.	U
621-64-7-----	N-Nitroso-di-n-propylamine	490.	U
67-72-1-----	Hexachloroethane	490.	U
98-95-3-----	Nitrobenzene	490.	U
78-59-1-----	Isophorone	490.	U
88-75-5-----	2-Nitrophenol	490.	U
105-67-9-----	2,4-Dimethylphenol	490.	U
111-91-1-----	bis(2-Chloroethoxy)methane	490.	U
120-83-2-----	2,4-Dichlorophenol	490.	U
120-82-1-----	1,2,4-Trichlorobenzene	490.	U
91-20-3-----	Naphthalene	490.	U
106-47-8-----	4-Chloroaniline	490.	U
87-68-3-----	Hexachlorobutadiene	490.	U
59-50-7-----	4-Chloro-3-methylphenol	490.	U
91-57-6-----	2-Methylnaphthalene	490.	U
77-47-4-----	Hexachlorocyclopentadiene	490.	U
88-06-2-----	2,4,6-Trichlorophenol	490.	U
95-95-4-----	2,4,5-Trichlorophenol	1200.	U
91-58-7-----	2-Chloronaphthalene	490.	U
88-74-4-----	2-Nitroaniline	1200.	U
131-11-3-----	Dimethylphthalate	490.	U
208-96-8-----	Acenaphthylene	490.	U
606-20-2-----	2,6-Dinitrotoluene	490.	U
99-09-2-----	3-Nitroaniline	1200.	U
83-32-9-----	Acenaphthene	44.	J

FORM I SV-1

0537

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR85

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-005

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G1957

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: 33 decanted: (Y/N) N

Date Extracted: 1/19/98

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/22/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 9.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

51-28-5-----	2,4-Dinitrophenol	1200.	U
100-02-7-----	4-Nitrophenol	1200.	U
132-64-9-----	Dibenzofuran	490.	U
121-14-2-----	2,4-Dinitrotoluene	490.	U
84-66-2-----	Diethylphthalate	40.	J
7005-72-3-----	4-Chlorophenyl-phenylether	490.	U
86-73-7-----	Fluorene	36.	J
100-01-6-----	4-Nitroaniline	1200.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1200.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	490.	U
101-55-3-----	4-Bromophenyl-phenylether	490.	U
118-74-1-----	Hexachlorobenzene	490.	U
87-86-5-----	Pentachlorophenol	1200.	U
85-01-8-----	Phenanthrene	✓ 640.	
120-12-7-----	Anthracene	80.	J
86-74-8-----	Carbazole	98.	J
84-74-2-----	Di-n-butylphthalate	28.	J
206-44-0-----	Fluoranthene	1500.	
129-00-0-----	Pyrene	✓ 1600.	
85-68-7-----	Butylbenzylphthalate	490.	U
91-94-1-----	3,3'-Dichlorobenzidine	490.	U
56-55-3-----	Benzo(a)anthracene	640.	
218-01-9-----	Chrysene	1000.	
117-81-7-----	bis(2-Ethylhexyl)phthalate	180.	JB
117-84-0-----	Di-n-octylphthalate	26.	J
205-99-2-----	Benzo(b)fluoranthene	810.	
207-08-9-----	Benzo(k)fluoranthene	✓ 1100.	
50-32-8-----	Benzo(a)pyrene	840.	
193-39-5-----	Indeno(1,2,3-cd)pyrene	1100.	
53-70-3-----	Dibenz(a,h)anthracene	310.	J
191-24-2-----	Benzo(g,h,i)perylene	1500.	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

OLM03.0

0538

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR86

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005

Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR76

Matrix: (soil/water) SOIL Lab Sample ID: 58073-006

Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1958

Level: (low/med) LOW Date Received: 1/15/98 /

% Moisture: 40 decanted: (Y/N) N Date Extracted: 1/19/98 /

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/22/98 /

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.6

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2-----	Phenol	78.	J
111-44-4-----	bis(2-Chloroethyl) ether	550.	U
95-57-8-----	2-Chlorophenol	550.	U
541-73-1-----	1,3-Dichlorobenzene	550.	U
106-46-7-----	1,4-Dichlorobenzene	550.	U
95-50-1-----	1,2-Dichlorobenzene	550.	U
95-48-7-----	2-Methylphenol	550.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	550.	U
106-44-5-----	4-Methylphenol	550.	U
621-64-7-----	N-Nitroso-di-n-propylamine	550.	U
67-72-1-----	Hexachloroethane	550.	U
98-95-3-----	Nitrobenzene	550.	U
78-59-1-----	Isophorone	550.	U
88-75-5-----	2-Nitrophenol	550.	U
105-67-9-----	2,4-Dimethylphenol	550.	U
111-91-1-----	bis(2-Chloroethoxy) methane	550.	U
120-83-2-----	2,4-Dichlorophenol	550.	U
120-82-1-----	1,2,4-Trichlorobenzene	550.	U
91-20-3-----	Naphthalene	550.	U
106-47-8-----	4-Chloroaniline	550.	U
87-68-3-----	Hexachlorobutadiene	550.	U
59-50-7-----	4-Chloro-3-methylphenol	550.	U
91-57-6-----	2-Methylnaphthalene	550.	U
77-47-4-----	Hexachlorocyclopentadiene	550.	U
88-06-2-----	2,4,6-Trichlorophenol	550.	U
95-95-4-----	2,4,5-Trichlorophenol	1400.	U
91-58-7-----	2-Chloronaphthalene	550.	U
88-74-4-----	2-Nitroaniline	1400.	U
131-11-3-----	Dimethylphthalate	60.	J
208-96-8-----	Acenaphthylene	550.	U
606-20-2-----	2,6-Dinitrotoluene	550.	U
99-09-2-----	3-Nitroaniline	1400.	U
83-32-9-----	Acenaphthene	550.	U

FORM I SV-1

OLM03.0
0604

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR86

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No.: 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-006

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G1958

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: 40 decanted: (Y/N) N

Date Extracted: 1/19/98

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/22/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.6

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	1400.	U
100-02-7-----	4-Nitrophenol	1400.	U
132-64-9-----	Dibenzofuran	550.	U
121-14-2-----	2,4-Dinitrotoluene	550.	U
84-66-2-----	Diethylphthalate	550.	U
7005-72-3-----	4-Chlorophenyl-phenylether	550.	U
86-73-7-----	Fluorene	550.	U
100-01-6-----	4-Nitroaniline	1400.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1400.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	550.	U
101-55-3-----	4-Bromophenyl-phenylether	550.	U
118-74-1-----	Hexachlorobenzene	550.	U
87-86-5-----	Pentachlorophenol	1400.	U
85-01-8-----	Phenanthrene	100.	J
120-12-7-----	Anthracene	550.	U
86-74-8-----	Carbazole	550.	U
84-74-2-----	Di-n-butylphthalate	33.	J
206-44-0-----	Fluoranthene	220.	J
129-00-0-----	Pyrene	210.	J
85-68-7-----	Butylbenzylphthalate	550.	U
91-94-1-----	3,3'-Dichlorobenzidine	550.	U
56-55-3-----	Benzo(a)anthracene	110.	J
218-01-9-----	Chrysene	170.	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	280.	JB
117-84-0-----	Di-n-octylphthalate	36.	J
205-99-2-----	Benzo(b)fluoranthene	140.	J
207-08-9-----	Benzo(k)fluoranthene	120.	J
50-32-8-----	Benzo(a)pyrene	130.	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	130.	J
53-70-3-----	Dibenz(a,h)anthracene	41.	J
191-24-2-----	Benzo(g,h,i)perylene	180.	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

0605 OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR87

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR76
Matrix: (soil/water) SOIL Lab Sample ID: 58073-007
Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1959
Level: (low/med) LOW Date Received: 1/15/98
% Moisture: 34 decanted: (Y/N) N Date Extracted: 1/19/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/23/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 8.1

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	500.	U
111-44-4-----	bis(2-Chloroethyl)ether	500.	U
95-57-8-----	2-Chlorophenol	500.	U
541-73-1-----	1,3-Dichlorobenzene	500.	U
106-46-7-----	1,4-Dichlorobenzene	500.	U
95-50-1-----	1,2-Dichlorobenzene	500.	U
95-48-7-----	2-Methylphenol	500.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	500.	U
106-44-5-----	4-Methylphenol	500.	U
621-64-7-----	N-Nitroso-di-n-propylamine	500.	U
67-72-1-----	Hexachloroethane	500.	U
98-95-3-----	Nitrobenzene	500.	U
78-59-1-----	Isophorone	500.	U
88-75-5-----	2-Nitrophenol	500.	U
105-67-9-----	2,4-Dimethylphenol	500.	U
111-91-1-----	bis(2-Chloroethoxy)methane	500.	U
120-83-2-----	2,4-Dichlorophenol	500.	U
120-82-1-----	1,2,4-Trichlorobenzene	500.	U
91-20-3-----	Naphthalene	500.	U
106-47-8-----	4-Chloroaniline	500.	U
87-68-3-----	Hexachlorobutadiene	500.	U
59-50-7-----	4-Chloro-3-methylphenol	500.	U
91-57-6-----	2-Methylnaphthalene	500.	U
77-47-4-----	Hexachlorocyclopentadiene	500.	U
88-06-2-----	2,4,6-Trichlorophenol	500.	U
95-95-4-----	2,4,5-Trichlorophenol	1200.	U
91-58-7-----	2-Chloronaphthalene	500.	U
88-74-4-----	2-Nitroaniline	1200.	U
131-11-3-----	Dimethylphthalate	500.	U
208-96-8-----	Acenaphthylene	500.	U
606-20-2-----	2,6-Dinitrotoluene	500.	U
99-09-2-----	3-Nitroaniline	1200.	U
83-32-9-----	Acenaphthene	500.	U

1/31/98

FORM I SV-1

OLM03.0

0073

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR87

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR76
Matrix: (soil/water) SOIL Lab Sample ID: 58073-007
Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1959
Level: (low/med) LOW Date Received: 1/15/98
% Moisture: 34 decanted: (Y/N) N Date Extracted: 1/19/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/23/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 8.1

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	1200.	U
100-02-7-----	4-Nitrophenol	1200.	U
132-64-9-----	Dibenzofuran	500.	U
121-14-2-----	2,4-Dinitrotoluene	500.	U
84-66-2-----	Diethylphthalate	500.	U
7005-72-3-----	4-Chlorophenyl-phenylether	500.	U
86-73-7-----	Fluorene	500.	U
100-01-6-----	4-Nitroaniline	1200.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1200.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	500.	U
101-55-3-----	4-Bromophenyl-phenylether	500.	U
118-74-1-----	Hexachlorobenzene	500.	U
87-86-5-----	Pentachlorophenol	1200.	U
85-01-8-----	Phenanthrene	500.	U
120-12-7-----	Anthracene	500.	U
86-74-8-----	Carbazole	500.	U
84-74-2-----	Di-n-butylphthalate	500.	U
206-44-0-----	Fluoranthene	500.	U
129-00-0-----	Pyrene	500.	U
85-68-7-----	Butylbenzylphthalate	500.	U
91-94-1-----	3,3'-Dichlorobenzidine	500.	U
56-55-3-----	Benzo(a)anthracene	500.	U
218-01-9-----	Chrysene	500.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	110.	JB
117-84-0-----	Di-n-octylphthalate	500.	U
205-99-2-----	Benzo(b)fluoranthene	500.	U
207-08-9-----	Benzo(k)fluoranthene	500.	U
50-32-8-----	Benzo(a)pyrene	500.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	500.	U
53-70-3-----	Dibenz(a,h)anthracene	500.	U
191-24-2-----	Benzo(g,h,i)perylene	500.	U

(1) - Cannot be separated from Diphenylamine

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR91

Lab Name:CLAYTON LABORATORY

Contract:68-D5-0005

Lab Code:CLAYTN

Case No.:25969

SAS No.:

SDG No.:FFR76

Matrix: (soil/water) SOIL

Lab Sample ID:58073-008

Sample wt/vol: 30.0 (g/ml) G

Lab File ID: G1960

Level: (low/med) LOW

Date Received: 1/15/98

% Moisture: 29 decanted: (Y/N) N

Date Extracted: 1/19/98

Concentrated Extract Volume: 500.0 (uL)

Date Analyzed: 1/23/98

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.1

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

108-95-2-----	Phenol	460.	U
111-44-4-----	bis(2-Chloroethyl)ether	460.	U
95-57-8-----	2-Chlorophenol	460.	U
541-73-1-----	1,3-Dichlorobenzene	460.	U
106-46-7-----	1,4-Dichlorobenzene	460.	U
95-50-1-----	1,2-Dichlorobenzene	460.	U
95-48-7-----	2-Methylphenol	460.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	460.	U
106-44-5-----	4-Methylphenol	460.	U
621-64-7-----	N-Nitroso-di-n-propylamine	460.	U
67-72-1-----	Hexachloroethane	460.	U
98-95-3-----	Nitrobenzene	460.	U
78-59-1-----	Isophorone	460.	U
88-75-5-----	2-Nitrophenol	460.	U
105-67-9-----	2,4-Dimethylphenol	460.	U
111-91-1-----	bis(2-Chloroethoxy)methane	460.	U
120-83-2-----	2,4-Dichlorophenol	460.	U
120-82-1-----	1,2,4-Trichlorobenzene	460.	U
91-20-3-----	Naphthalene	460.	U
106-47-8-----	4-Chloroaniline	460.	U
87-68-3-----	Hexachlorobutadiene	460.	U
59-50-7-----	4-Chloro-3-methylphenol	460.	U
91-57-6-----	2-Methylnaphthalene	460.	U
77-47-4-----	Hexachlorocyclopentadiene	460.	U
88-06-2-----	2,4,6-Trichlorophenol	460.	U
95-95-4-----	2,4,5-Trichlorophenol	1200.	U
91-58-7-----	2-Chloronaphthalene	460.	U
88-74-4-----	2-Nitroaniline	1200.	U
131-11-3-----	Dimethylphthalate	460.	U
208-96-8-----	Acenaphthylene	460.	U
606-20-2-----	2,6-Dinitrotoluene	460.	U
99-09-2-----	3-Nitroaniline	1200.	U
83-32-9-----	Acenaphthene	460.	U

FORM I SV-1

0725

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR91

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR76
Matrix: (soil/water) SOIL Lab Sample ID: 58073-008
Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1960
Level: (low/med) LOW Date Received: 1/15/98
% Moisture: 29 decanted: (Y/N) N Date Extracted: 1/19/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/23/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 8.1

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	1200.	U
100-02-7-----	4-Nitrophenol	1200.	U
132-64-9-----	Dibenzofuran	460.	U
121-14-2-----	2,4-Dinitrotoluene	460.	U
84-66-2-----	Diethylphthalate	460.	U
7005-72-3-----	4-Chlorophenyl-phenylether	460.	U
86-73-7-----	Fluorene	460.	U
100-01-6-----	4-Nitroaniline	1200.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1200.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	460.	U
101-55-3-----	4-Bromophenyl-phenylether	460.	U
118-74-1-----	Hexachlorobenzene	460.	U
87-86-5-----	Pentachlorophenol	1200.	U
85-01-8-----	Phenanthrene	460.	U
120-12-7-----	Anthracene	460.	U
86-74-8-----	Carbazole	460.	U
84-74-2-----	Di-n-butylphthalate	460.	U
206-44-0-----	Fluoranthene	460.	U
129-00-0-----	Pyrene	460.	U
85-68-7-----	Butylbenzylphthalate	460.	U
91-94-1-----	3,3'-Dichlorobenzidine	460.	U
56-55-3-----	Benzo(a)anthracene	460.	U
218-01-9-----	Chrysene	460.	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	63.	JB
117-84-0-----	Di-n-octylphthalate	460.	U
205-99-2-----	Benzo(b)fluoranthene	460.	U
207-08-9-----	Benzo(k)fluoranthene	460.	U
50-32-8-----	Benzo(a)pyrene	460.	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	460.	U
53-70-3-----	Dibenz(a,h)anthracene	460.	U
191-24-2-----	Benzo(g,h,i)perylene	460.	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

0726

OLM03.0

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CASE 25969
SDG# FFR76
EPA SAMPLE NO.

FFR92

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005

Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR76

Matrix: (soil/water) SOIL Lab Sample ID: 58073-009

Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1967 ✓

Level: (low/med) LOW Date Received: 1/15/98 ✓

% Moisture: 34 decanted: (Y/N) N Date Extracted: 1/19/98 ✓

Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/23/98 ✓

Injection Volume: 2.0 (uL) Dilution Factor: 1.0 ✓

GPC Cleanup: (Y/N) Y pH: 8.2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2-----	Phenol	500.	U
111-44-4-----	bis(2-Chloroethyl)ether	500.	U
95-57-8-----	2-Chlorophenol	500.	U
541-73-1-----	1,3-Dichlorobenzene	500.	U
106-46-7-----	1,4-Dichlorobenzene	500.	U
95-50-1-----	1,2-Dichlorobenzene	500.	U
95-48-7-----	2-Methylphenol	500.	U
108-60-1-----	2,2'-oxybis(1-Chloropropane)	500.	U
106-44-5-----	4-Methylphenol	500.	U
621-64-7-----	N-Nitroso-di-n-propylamine	500.	U
67-72-1-----	Hexachloroethane	500.	U
98-95-3-----	Nitrobenzene	500.	U
78-59-1-----	Isophorone	500.	U
88-75-5-----	2-Nitrophenol	500.	U
105-67-9-----	2,4-Dimethylphenol	500.	U
111-91-1-----	bis(2-Chloroethoxy)methane	500.	U
120-83-2-----	2,4-Dichlorophenol	500.	U
120-82-1-----	1,2,4-Trichlorobenzene	500.	U
91-20-3-----	Naphthalene	500.	U
106-47-8-----	4-Chloroaniline	500.	U
87-68-3-----	Hexachlorobutadiene	500.	U
59-50-7-----	4-Chloro-3-methylphenol	500.	U
91-57-6-----	2-Methylnaphthalene	500.	U
77-47-4-----	Hexachlorocyclopentadiene	500.	U
88-06-2-----	2,4,6-Trichlorophenol	500.	U
95-95-4-----	2,4,5-Trichlorophenol	1200.	U
91-58-7-----	2-Chloronaphthalene	500.	U
88-74-4-----	2-Nitroaniline	1200.	U
131-11-3-----	Dimethylphthalate	500.	U
208-96-8-----	Acenaphthylene	500.	U
606-20-2-----	2,6-Dinitrotoluene	500.	U
99-09-2-----	3-Nitroaniline	1200.	U
83-32-9-----	Acenaphthene	500.	U

FORM I SV-1

0778

OLM03.0

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR92

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005
Lab Code: CLAYTN Case No.: 25969 SAS No.: SDG No.: FFR76
Matrix: (soil/water) SOIL Lab Sample ID: 58073-009
Sample wt/vol: 30.0 (g/ml) G Lab File ID: G1967
Level: (low/med) LOW Date Received: 1/15/98
% Moisture: 34 decanted: (Y/N) N Date Extracted: 1/19/98
Concentrated Extract Volume: 500.0 (uL) Date Analyzed: 1/23/98
Injection Volume: 2.0 (uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) Y pH: 8.2

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

51-28-5-----	2,4-Dinitrophenol	1200.	U
100-02-7-----	4-Nitrophenol	1200.	U
132-64-9-----	Dibenzofuran	500.	U
121-14-2-----	2,4-Dinitrotoluene	500.	U
84-66-2-----	Diethylphthalate	41.	J
7005-72-3-----	4-Chlorophenyl-phenylether	500.	U
86-73-7-----	Fluorene	500.	U
100-01-6-----	4-Nitroaniline	1200.	U
534-52-1-----	4,6-Dinitro-2-methylphenol	1200.	U
86-30-6-----	N-Nitrosodiphenylamine (1)	500.	U
101-55-3-----	4-Bromophenyl-phenylether	500.	U
118-74-1-----	Hexachlorobenzene	500.	U
87-86-5-----	Pentachlorophenol	1200.	U
85-01-8-----	Phenanthrene	✓ 200.	J
120-12-7-----	Anthracene	37.	J
86-74-8-----	Carbazole	500.	U
84-74-2-----	Di-n-butylphthalate	73.	J
206-44-0-----	Fluoranthene	120.	J
129-00-0-----	Pyrene	170.	J
85-68-7-----	Butylbenzylphthalate	500.	U
91-94-1-----	3,3'-Dichlorobenzidine	500.	U
56-55-3-----	Benzo(a)anthracene	59.	J
218-01-9-----	Chrysene	69.	J
117-81-7-----	bis(2-Ethylhexyl)phthalate	91.	JB
117-84-0-----	Di-n-octylphthalate	29.	J
205-99-2-----	Benzo(b)fluoranthene	38.	J
207-08-9-----	Benzo(k)fluoranthene	47.	J
50-32-8-----	Benzo(a)pyrene	51.	J
193-39-5-----	Indeno(1,2,3-cd)pyrene	30.	J
53-70-3-----	Dibenz(a,h)anthracene	500.	U
191-24-2-----	Benzo(g,h,i)perylene	42.	J

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

0779

OLM03.0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR76

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-1

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 15 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/18/98

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 8.1

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	20.	U
319-85-7-----	beta-BHC	20.	U
319-86-8-----	delta-BHC	20.	U
58-89-9-----	gamma-BHC (Lindane)	20.	U
76-44-8-----	Heptachlor	20.	U
309-00-2-----	Aldrin	20.	U
1024-57-3-----	Heptachlor epoxide	20.	U
959-98-8-----	Endosulfan I	9.4	JP
60-57-1-----	Dieldrin	39.	U
72-55-9-----	4,4'-DDE	39.	U
72-20-8-----	Endrin	1200.	PE
33213-65-9----	Endosulfan II	130.	P
72-54-8-----	4,4'-DDD	39.	U
1031-07-8-----	Endosulfan sulfate	39.	U
50-29-3-----	4,4'-DDT	39.	U
72-43-5-----	Methoxychlor	200.	U
53494-70-5----	Endrin ketone	280.	P
7421-93-4----	Endrin aldehyde	39.	U
5103-71-9----	alpha-Chlordane	20.	U
5103-74-2----	gamma-Chlordane	100.	P
8001-35-2----	Toxaphene	2000.	U
12674-11-2----	Aroclor-1016	390.	U
11104-28-2----	Aroclor-1221	790.	U
11141-16-5----	Aroclor-1232	390.	U
53469-21-9----	Aroclor-1242	390.	U
12672-29-6----	Aroclor-1248	390.	U
11097-69-1----	Aroclor-1254	390.	U
11096-82-5----	Aroclor-1260	18000.	PEC

RH02-14-98

FORM I PEST

OLM03.0

0970

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR81

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-2

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 36 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/13/98

Injection Volume: 1.0 (uL)

Dilution Factor: 8.0

GPC Cleanup: (Y/N) Y

pH: 8.3

Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS
(ug/L or ug/Kg) UG/KG

Q

319-84-6-----	alpha-BHC	21.	U
319-85-7-----	beta-BHC	21.	U
319-86-8-----	delta-BHC	21.	U
58-89-9-----	gamma-BHC (Lindane)	21.	U
76-44-8-----	Heptachlor	21.	U
309-00-2-----	Aldrin	21.	U
1024-57-3-----	Heptachlor epoxide	21.	U
959-98-8-----	Endosulfan I	21.	U
60-57-1-----	Dieldrin	41.	U
72-55-9-----	4,4'-DDE	41.	U
72-20-8-----	Endrin	200.	P
33213-65-9----	Endosulfan II	7.3	JP
72-54-8-----	4,4'-DDD	41.	U
1031-07-8-----	Endosulfan sulfate	41.	U
50-29-3-----	4,4'-DDT	41.	U
72-43-5-----	Methoxychlor	9.2	JP
53494-70-5----	Endrin ketone	68.	P
7421-93-4-----	Endrin aldehyde	41.	U
5103-71-9-----	alpha-Chlordane	21.	U
5103-74-2-----	gamma-Chlordane	15.	JP
8001-35-2-----	Toxaphene	2100.	U
12674-11-2----	Aroclor-1016	410.	U
11104-28-2----	Aroclor-1221	840.	U
11141-16-5----	Aroclor-1232	410.	U
53469-21-9----	Aroclor-1242	410.	U
12672-29-6----	Aroclor-1248	410.	U
11097-69-1----	Aroclor-1254	410.	U
11096-82-5----	Aroclor-1260	2800.	

RH02-19-98

FORM I PEST

OLM03.0

1029

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

CASE 25969
EPA SAMPLING NO.
SDG# FFR76

FFR82

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-3

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 35 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/13/98

Injection Volume: 1.0 (uL)

Dilution Factor: 8.0

GPC Cleanup: (Y/N) Y

pH: 8.7

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	21.	U
319-85-7-----	beta-BHC	21.	U
319-86-8-----	delta-BHC	21.	U
58-89-9-----	gamma-BHC (Lindane)	21.	U
76-44-8-----	Heptachlor	21.	U
309-00-2-----	Aldrin	21.	U
1024-57-3-----	Heptachlor epoxide	21.	U
959-98-8-----	Endosulfan I	21.	U
60-57-1-----	Dieldrin	17.	J
72-55-9-----	4,4'-DDE	41.	U
72-20-8-----	Endrin	190.	P
33213-65-9----	Endosulfan II	6.2	JP
72-54-8-----	4,4'-DDD	41.	U
1031-07-8-----	Endosulfan sulfate	41.	U
50-29-3-----	4,4'-DDT	41.	U
72-43-5-----	Methoxychlor	210.	U
53494-70-5----	Endrin ketone	69.	P
7421-93-4-----	Endrin aldehyde	41.	U
5103-71-9-----	alpha-Chlordane	21.	U
5103-74-2-----	gamma-Chlordane	11.	JP
8001-35-2-----	Toxaphene	2100.	U
12674-11-2----	Aroclor-1016	410.	U
11104-28-2----	Aroclor-1221	820.	U
11141-16-5----	Aroclor-1232	410.	U
53469-21-9----	Aroclor-1242	410.	U
12672-29-6----	Aroclor-1248	410.	U
11097-69-1----	Aroclor-1254	410.	U
11096-82-5----	Aroclor-1260	3000.	C

R102-19-98

FORM I PEST

OLM03.0

1041

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR83

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-4

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 36 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/14/98

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) Y pH: 9.1

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	26.	U
319-85-7	beta-BHC	26.	U
319-86-8	delta-BHC	26.	U
58-89-9	gamma-BHC (Lindane)	26.	U
76-44-8	Heptachlor	26.	U
309-00-2	Aldrin	26.	U
1024-57-3	Heptachlor epoxide	26.	U
959-98-8	Endosulfan I	26.	U
60-57-1	Dieldrin	52.	U
72-55-9	4,4'-DDE	52.	U
72-20-8	Endrin	1200.	P
33213-65-9	Endosulfan II	52.	U
72-54-8	4,4'-DDD	2.4	JP
1031-07-8	Endosulfan sulfate	52.	U
50-29-3	4,4'-DDT	52.	U
72-43-5	Methoxychlor	260.	U
53494-70-5	Endrin ketone	560.	P
7421-93-4	Endrin aldehyde	52.	U
5103-71-9	alpha-Chlordane	26.	U
5103-74-2	gamma-Chlordane	47.	P
8001-35-2	Toxaphene	2600.	U
12674-11-2	Aroclor-1016	520.	U
11104-28-2	Aroclor-1221	1000.	U
11141-16-5	Aroclor-1232	520.	U
53469-21-9	Aroclor-1242	520.	U
12672-29-6	Aroclor-1248	520.	U
11097-69-1	Aroclor-1254	520.	U
11096-82-5	Aroclor-1260	21000.	PEC

RH07-19-98

FORM I PEST

OLM03.0

1053

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR83DL

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-4DL

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 36 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/13/98

Injection Volume: 1.0 (uL)

Dilution Factor: 100.0

GPC Cleanup: (Y/N) Y

pH: 9.1

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	260.	U
319-85-7-----	beta-BHC	260.	U
319-86-8-----	delta-BHC	260.	U
58-89-9-----	gamma-BHC (Lindane)	260.	U
76-44-8-----	Heptachlor	260.	U
309-00-2-----	Aldrin	260.	U
1024-57-3-----	Heptachlor epoxide	260.	U
959-98-8-----	Endosulfan I	260.	U
60-57-1-----	Dieldrin	520.	U
72-55-9-----	4,4'-DDE	520.	U
72-20-8-----	Endrin	2300.	DP
33213-65-9----	Endosulfan II	76.	DJP
72-54-8-----	4,4'-DDD	520.	U
1031-07-8-----	Endosulfan sulfate	520.	U
50-29-3-----	4,4'-DDT	520.	U
72-43-5-----	Methoxychlor	2600.	U
53494-70-5----	Endrin ketone	800.	DP
7421-93-4-----	Endrin aldehyde	520.	U
5103-71-9-----	alpha-Chlordane	260.	U
5103-74-2-----	gamma-Chlordane	59.	DJP
8001-35-2-----	Toxaphene	26000.	U
12674-11-2----	Aroclor-1016	5200.	U
11104-28-2----	Aroclor-1221	10000.	U
11141-16-5----	Aroclor-1232	5200.	U
53469-21-9----	Aroclor-1242	5200.	U
12672-29-6----	Aroclor-1248	5200.	U
11097-69-1----	Aroclor-1254	5200.	U
1096-82-5----	Aroclor-1260	35000.	DC

RH02-19-98

FORM I PEST

OLM03.0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA CASE 5809
SDG# FFR76

FFR85

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-5

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 33 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/13/98

Injection Volume: 1.0 (uL)

Dilution Factor: 8.0

GPC Cleanup: (Y/N) Y pH: 9.2

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6	alpha-BHC	20.	U
319-85-7	beta-BHC	20.	U
319-86-8	delta-BHC	20.	U
58-89-9	gamma-BHC(Lindane)	20.	U
76-44-8	Heptachlor	20.	U
309-00-2	Aldrin	20.	U
1024-57-3	Heptachlor epoxide	20.	U
959-98-8	Endosulfan I	20.	U
60-57-1	Dieldrin	2.2	JP
72-55-9	4,4'-DDE	39.	U
72-20-8	Endrin	30.	JP
33213-65-9	Endosulfan II	39.	U
72-54-8	4,4'-DDD	39.	U
1031-07-8	Endosulfan sulfate	39.	U
50-29-3	4,4'-DDT	39.	U
72-43-5	Methoxychlor	5.1	JP
53494-70-5	Endrin ketone	11.	JP
7421-93-4	Endrin aldehyde	39.	U
5103-71-9	alpha-Chlordane	20.	U
5103-74-2	gamma-Chlordane	1.5	JP
8001-35-2	Toxaphene	2000.	U
12674-11-2	Aroclor-1016	390.	U
11104-28-2	Aroclor-1221	800.	U
11141-16-5	Aroclor-1232	390.	U
53469-21-9	Aroclor-1242	390.	U
12672-29-6	Aroclor-1248	390.	U
11097-69-1	Aroclor-1254	390.	U
11096-82-5	Aroclor-1260	420.	

RH02-19-98

FORM I PEST

OLM03.0

1076

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR86

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969 SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-6

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 40 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/13/98

Injection Volume: 1.0 (uL)

Dilution Factor: 8.0

GPC Cleanup: (Y/N) Y pH: 8.7

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	23.	U
319-85-7-----	beta-BHC	23.	U
319-86-8-----	delta-BHC	23.	U
58-89-9-----	gamma-BHC (Lindane)	23.	U
76-44-8-----	Heptachlor	23.	U
309-00-2-----	Aldrin	23.	U
1024-57-3-----	Heptachlor epoxide	23.	U
959-98-8-----	Endosulfan I	23.	U
60-57-1-----	Dieldrin	44.	U
72-55-9-----	4,4'-DDE	12.	J
72-20-8-----	Endrin	40.	JP
33213-65-9----	Endosulfan II	44.	U
72-54-8-----	4,4'-DDD	44.	U
1031-07-8-----	Endosulfan sulfate	44.	U
50-29-3-----	4,4'-DDT	44.	U
72-43-5-----	Methoxychlor	230.	U
53494-70-5----	Endrin ketone	16.	JP
7421-93-4-----	Endrin aldehyde	44.	U
5103-71-9-----	alpha-Chlordane	23.	U
5103-74-2-----	gamma-Chlordane	1.1	JP
8001-35-2-----	Toxaphene	2300.	U
12674-11-2----	Aroclor-1016	440.	U
11104-28-2----	Aroclor-1221	890.	U
11141-16-5----	Aroclor-1232	440.	U
53469-21-9----	Aroclor-1242	440.	U
12672-29-6----	Aroclor-1248	440.	U
11097-69-1----	Aroclor-1254	440.	U
11096-82-5----	Aroclor-1260	730.	

R#07-1648

FORM I PEST

OLM03.0

1085

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
CASE 25969
SDG# FFR76
FFR87

Lab Name: CLAYTON LABORATORY Contract: 68-D5-0005

Lab Code: CLAYTN Case No. 25969 SAS No.: SDG No.: FFR76

Matrix: (soil/water) SOIL Lab Sample ID: 58073-7

Sample wt/vol: 30.0 (g/ml) G Lab File ID:

% Moisture: 34 decanted: (Y/N) N Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL) Date Analyzed: 2/13/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.1 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	2.6	U
319-85-7-----	beta-BHC	2.6	U
319-86-8-----	delta-BHC	2.6	U
58-89-9-----	gamma-BHC (Lindane)	2.6	U
76-44-8-----	Heptachlor	2.6	U
309-00-2-----	Aldrin	2.6	U
1024-57-3-----	Heptachlor epoxide	2.6	U
959-98-8-----	Endosulfan I	2.6	U
60-57-1-----	Dieldrin	1.4	JP
72-55-9-----	4,4'-DDE	18.	
72-20-8-----	Endrin	20.	P
33213-65-9----	Endosulfan II	5.0	U
72-54-8-----	4,4'-DDD	5.0	U
1031-07-8-----	Endosulfan sulfate	5.0	U
50-29-3-----	4,4'-DDT	5.0	U
72-43-5-----	Methoxychlor	26.	U
53494-70-5----	Endrin ketone	6.9	P
7421-93-4-----	Endrin aldehyde	5.0	U
5103-71-9-----	alpha-Chlordane	2.6	U
5103-74-2-----	gamma-Chlordane	2.6	U
8001-35-2-----	Toxaphene	260.	U
12674-11-2----	Aroclor-1016	50.	U
11104-28-2----	Aroclor-1221	100.	U
11141-16-5----	Aroclor-1232	50.	U
53469-21-9----	Aroclor-1242	50.	U
12672-29-6----	Aroclor-1248	50.	U
11097-69-1----	Aroclor-1254	50.	U
11096-82-5----	Aroclor-1260	340.	

R# 02-18-98

FORM I PEST

OLM03.0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR91

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-8

Sample wt/vol: 30.0 (g/ml) G

Lab File ID:

% Moisture: 29 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/16/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.1

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	2.4	U
319-85-7-----	beta-BHC	2.4	U
319-86-8-----	delta-BHC	2.4	U
58-89-9-----	gamma-BHC (Lindane)	2.4	U
76-44-8-----	Heptachlor	2.4	U
309-00-2-----	Aldrin	2.4	U
1024-57-3-----	Heptachlor epoxide	2.4	U
959-98-8-----	Endosulfan I	2.4	U
60-57-1-----	Dieldrin	4.6	U
72-55-9-----	4,4'-DDE	4.6	U
72-20-8-----	Endrin	4.6	U
33213-65-9----	Endosulfan II	4.6	U
72-54-8-----	4,4'-DDD	4.6	U
1031-07-8-----	Endosulfan sulfate	4.6	U
50-29-3-----	4,4'-DDT	4.6	U
72-43-5-----	Methoxychlor	24.	U
53494-70-5----	Endrin ketone	4.6	U
7421-93-4-----	Endrin aldehyde	4.6	U
5103-71-9-----	alpha-Chlordane	2.4	U
5103-74-2-----	gamma-Chlordane	2.4	U
8001-35-2-----	Toxaphene	240.	U
12674-11-2----	Aroclor-1016	46.	U
11104-28-2----	Aroclor-1221	94.	U
11141-16-5----	Aroclor-1232	46.	U
53469-21-9----	Aroclor-1242	46.	U
12672-29-6----	Aroclor-1248	46.	U
11097-69-1----	Aroclor-1254	46.	U
11096-82-5----	Aroclor-1260	46.	U

RH02-18-48

FORM I PEST

OLM03.0

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

FFR92

Lab Name: CLAYTON LABORATORY

Contract: 68-D5-0005

Lab Code: CLAYTN

Case No. 25969

SAS No.:

SDG No.: FFR76

Matrix: (soil/water) SOIL

Lab Sample ID: 58073-9

Sample wt/vol: 30.0 (g/ml)G

Lab File ID:

% Moisture: 34 decanted: (Y/N) N

Date Received: 1/15/98

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 2/09/98

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 2/16/98

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 8.2

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
319-84-6-----	alpha-BHC	2.6	U
319-85-7-----	beta-BHC	2.6	U
319-86-8-----	delta-BHC	2.6	U
58-89-9-----	gamma-BHC (Lindane)	2.6	U
76-44-8-----	Heptachlor	2.6	U
309-00-2-----	Aldrin	2.6	U
1024-57-3-----	Heptachlor epoxide	2.6	U
959-98-8-----	Endosulfan I	2.6	U
60-57-1-----	Dieldrin	5.0	U
72-55-9-----	4,4'-DDE	1.6	JP
72-20-8-----	Endrin	2.3	JP
33213-65-9----	Endosulfan II	5.0	U
72-54-8-----	4,4'-DDD	5.0	U
1031-07-8-----	Endosulfan sulfate	5.0	U
50-29-3-----	4,4'-DDT	5.0	U
72-43-5-----	Methoxychlor	26.	U
53494-70-5----	Endrin ketone	5.0	U
7421-93-4-----	Endrin aldehyde	5.0	U
5103-71-9-----	alpha-Chlordane	2.6	U
5103-74-2-----	gamma-Chlordane	2.6	U
8001-35-2-----	Toxaphene	260.	U
12674-11-2----	Aroclor-1016	50.	U
11104-28-2----	Aroclor-1221	100.	U
11141-16-5----	Aroclor-1232	50.	U
53469-21-9----	Aroclor-1242	50.	U
12672-29-6----	Aroclor-1248	50.	U
11097-69-1----	Aroclor-1254	50.	U
11096-82-5----	Aroclor-1260	33.	J


RH02-18-48

FORM I PEST

OLM03.0

1114

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 EPA		United States Environmental Protection Agency Contract Laboratory Program			Inorganic Traffic Report & Chain of Custody Record (For Inorganic CLP Analysis)		Case No. 25969																		
1. Project Code		Account Code		2. Region No. 6 Sampling Co. TNRCC		4. Date Shipped 1-14-98 Carrier Airborne Express		6. Matrix (Enter in Column A)		7. Preservative (Enter in Column D)															
Regional Information				3. Sampler (Name) Ray Newby		Airbill Number 2423938333				1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (specify in Column A)		1. HCl 2. HNO ₃ 3. NaOH 4. H ₂ SO ₄ 5. K ₂ Cr ₂ O ₇ 6. Ice only 7. Other (specify in Column D) N. Not preserved													
Non-Superfund Program				3. Sampler Signature <i>[Signature]</i>		5. Ship To AATS 1700 West Albany, Suite C Broken Arrow, OK. 74012																			
Site Name Frank J Doyle Transformer				3. Purpose																					
City, State Leonard, Texas		Site Spill ID		Lead																					
				Early Action		Long-Term Action																			
				SF		FS																			
				PRP		RD																			
				ST		RA																			
				FED		O&M																			
				ESI		NPLD																			
CLP Sample Numbers (from labels)		A Matrix (from Box 6)		B Conc. Low Med High		C Sample Type: Comp./Grab		D Preservative (from Box 7)		E - RAS Analysis		F Regional Specific Tracking Number or Tag Numbers		G Station Location Identifier		H Mo/Day/Year/Time Sample Collection		I Corresponding CLP Organic Sample No.		J Sampler Initials		K Field QC Qualifier			
		Other:						Other:		Diss. Metals Total Metals Cyanide NO ₂ /NO ₃ Fluoride pH Conduct.														B = Blank S = Spike D = Duplicate R = Rinsale PE = Perform. Eval. - = Not a QC Sample	
MFHM13		5		low		grab		6		XX		6-164749-750		50-01		1/13/93 1330		FFR91		RN					
MFHM14		5		low		grab		6		XX		6-164755-756		50-02		1/13/93 1345		FFR92		RN					
MFHM09		5		low		grab		6		XX		6-164761-762		50-03		1/13/93 1415		FFR87		RN					
MFHM07		5		low		grab		6		XX		6-164785-786		50-07		1/13/93 1500		FFR85		RN					
MFHM08		5		low		grab		6		XX		6-164791-792		50-08		1/13/93 1515		FFR86		RN					
MFHM03		5		low		grab		6		XX		6-164797-798		50-09		1/13/93 1530		FFR81		RN					
MFHM04		5		low		grab		6		XX		6-162804-805		50-10		1/13/93 1535		FFR82		RN				D	
MFHM05		5		low		grab		6		XX		6-162810-811		50-11		1/13/93 1610		FFR83		RN					
MFHL98		5		low		grab		6		XX		6-162840-841		50-16		1/13/93 1630		FFR76		RN					
MFHM10		5		low		grab		6		XX		6-164767-768		50-04		1/14/93 1000		FFR88		CH					
Shipment for Case Complete? (Y/N) No		Page 1 of 3		Sample(s) to be Used for Laboratory QC MFHM05		Additional Sampler Signatures		Chain of Custody Seal Number(s)																	

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature) <i>[Signature]</i>	Date / Time 01/14/98 19:30	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/none

DISTRIBUTION:

Green - Region Copy

White - Lab Copy for Return to Region

Pink - CLASS Copy


Yellow - Lab Copy for Return to CLASS

EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS

*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

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pg. 2

		United States Environmental Protection Agency Contract Laboratory Program				Inorganic Traffic Report & Chain of Custody Record (For Inorganic CLP Analysis)				Case No. 25969					
1. Project Code		Account Code		2. Region No. 6		Sampling Co. TNRCC		4. Date Shipped 1-14-98		Carrier Airborne Express		6. Matrix (Enter in Column A)		7. Preservative (Enter in Column D)	
Regional Information				Sampler (Name) Gary Hazelwood				Airbill Number 2423938333				1. Surface Water		1. HCl	
Non-Superfund Program				Sampler Signature <i>Gary Hazelwood</i>				5. Ship To AATS				2. Ground Water		2. HNO ₃	
Site Name Frank J. Doyle Transfer				3. Purpose/				1700 West Albany, Suite C				3. Leachate		3. NaOH	
City, State Leonard, TX				Site Spill ID				Broken Arrow, OK 74012				4. Field QC		4. H ₂ SO ₄	
				Lead				Long-Term Action				5. Soil/Sediment		5. K ₂ Cr ₂ O ₇	
				<input checked="" type="checkbox"/> SF				<input type="checkbox"/> CLEM				6. Oil (High only)		6. Ice only	
				<input type="checkbox"/> PRP				<input type="checkbox"/> PA				7. Waste (High only)		7. Other (specify in Column D)	
				<input type="checkbox"/> ST				<input type="checkbox"/> REM				8. Other (specify in Column A)		N. Not preserved	
				<input type="checkbox"/> FED				<input type="checkbox"/> RI							
				<input type="checkbox"/> ESI				<input type="checkbox"/> FS							
								<input type="checkbox"/> RD							
								<input type="checkbox"/> RA							
								<input type="checkbox"/> O&M							
								<input type="checkbox"/> NPLD							
								ATTN: Chuck Hoover							

CLP Sample Numbers (from labels)	A Matrix (from Box 6)	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7)	E - RAS Analysis							F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/ Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier
					Diss. Metals	Total Metals	Cyanide	Low only NO ₂ /NO ₃	High only Fluoride	pH	Conduct.						
MFHL 96	4	Low	Grab	5	XX								6-164733-734	ER01	01/14/98 8:45	FFR 74	GH
MFHL 25	4	Low	Grab	5	XX								6-164738-739	ER02	01/14/98 12:50	FFR 69	GH
MFHM 11	5	Low	Comp.	5	XX								6-164773-774	SO-05	01/14/98 10:45	FFR 89	GK
MFHM 06	5	Low	Comp.	5	XX								6-164779-780	SO-06	01/14/98 10:45	FFR 84	GH
MFHM 02	5	Low	Comp.	5	XX								6-162816-817	SO-12	01/14/98 10:30	FFR 78	GH
MFHM 01	5	Low	Grab	5	XX								6-162822-823	SO-13	01/14/98 9:00	FFR 79	GH
MFHM 02	5	Low	Grab	5	XX								6-162828-829	SO-14	01/14/98 9:10	FFR 80	GH
MFHL 97	5	Low	Grab	5	XX								6-162834-835	SO-15	01/14/98 9:15	FFR 75	GH
MFHL 99	5	Low	Grab	5	XX								6-162846-847	SO-17	01/14/98 11:30	FFR 77	GH
MFHL 94	5	Low	Grab	5	XX								6-162853-853	SO-18	01/14/98 11:45	FFR 72	GH

Shipment for Case Complete? (Y/N)	Page 2 of 2	Sample(s) to be Used for Laboratory QC	Additional Sampler Signatures	Chain of Custody Seal Number(s)
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CHAIN OF CUSTODY RECORD

Relinquished by: (Signature) <i>[Signature]</i>	Date / Time 01/14/98 19:30	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/none

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EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS

*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

(5.1)
503

 EPA		United States Environmental Protection Agency Contract Laboratory Program		Inorganic Traffic Report & Chain of Custody Record (For Inorganic CLP Analysis)		Case No. 25969																					
1. Project Code		Account Code		2. Region No./Sampling Co.		4. Date Shipped/Carrier 1/14/98/Airborne Express																					
Regional Information		Sampler (Name) GARY HAZELWOOD		Airbill Number 2423938333		6. Matrix (Enter in Column A) 1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (specify in Column A)																					
Non-Superfund Program		Sampler Signature <i>[Signature]</i>		5. Ship To AATS 1700 West Albany, Suite C Broken Arrow, OK 74012 ATTN: Chuck Hoover		7. Preservative (Enter in Column D) 1. HCl 2. HNO3 3. NaOH 4. H2SO4 5. K2Cr2O7 6. Ice only 7. Other (specify in Column D) N. Not preserved																					
Site Name Frank J. Doyle Transform		3. Purpose* Lead <input checked="" type="checkbox"/> SF <input type="checkbox"/> PRP <input type="checkbox"/> ST <input type="checkbox"/> FED		Early Action <input type="checkbox"/> CLEM <input type="checkbox"/> PA <input type="checkbox"/> REM <input type="checkbox"/> RI <input checked="" type="checkbox"/> SI <input type="checkbox"/> ESI		Long-Term Action <input type="checkbox"/> FS <input type="checkbox"/> RD <input type="checkbox"/> RA <input type="checkbox"/> O&M <input type="checkbox"/> NPLD																					
City, State Leonard TX		Site Spill ID		CLP Sample Numbers (from labels)		A Matrix (from Box 6) Other:		B Conc. Low Med High		C Sample Type: Comp./Grab		D Preservative (from Box 7) Other:		E - RAS Analysis Diss Metals Total Metals Cyanide NO2/NO3 Fluoride pH Conduct.		F Regional Specific Tracking Number or Tag Numbers		G Station Location Identifier		H Mo/Day/Year/Time Sample Collection		I Corresponding CLP Organic Sample No.		J Sampler Initials		K Field QC Qualifier B = Blank S = Spike D = Duplicate R = Retain PE = Perform. Eval. -- = Not a QC Sample	
MFHL 95		5		Low		Grab								XX		6-162858-859		SO-19		01/14/98 12:00		PFR 73		GH			
MFHM 10		5		Low		Grab								XX		6-164767-768		SO-04		01/14/98 10:00		PFR 88		GH			
Shipment for Case Complete? (Y/N)		Page 3 of 3		Sample(s) to be Used for Laboratory QC		Additional Sampler Signatures		Chain of Custody Seal Number(s)																			

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature) <i>[Signature]</i>	Date / Time 01/14/98 14:30	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/none

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EPA Form 9110-1

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

A21-012-13 REV.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10625 FALLSTONE RD.
HOUSTON, TEXAS 77099

MEMORANDUM

Date: 2-20-1998

Subject: Contract Laboratory Program Data Review

From: *Marvelyn Humphrey* Marvelyn Humphrey, Alternate/ESAT RPO, 6MD-HC

To: B. Kirchner, 6SF-RA

Site: DOYLE F.J. TRANSFORMERS

Case#: 25969

SDG#: MFHL25

The EPA Region 6 Houston Branch ESAT data review team has completed a review of the submitted Contract Laboratory Program (CLP) data package for the referenced site. The samples analyzed and reviewed are detailed in the attached Regional data review report.

The data package was found to be:

- (X) Acceptable : No problems with data package.
() Provisional: Data is acceptable for regional use.
Problems are noted in the review report.

If you have any questions regarding the data review report, please call me at (281) 983-2140.

Attachments

cc: R. Flores, Region 6 CLP/TPO
M. ElFeky, Region 6 Data Coordinator
Files (2)



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contains at least 50% recycled fiber

LOCKHEED MARTIN SERVICES GROUP
10101 SOUTHWEST FREEWAY, SUITE 500
HOUSTON, TEXAS 77074

MEMORANDUM

DATE: February 18, 1998
TO: Dr. Melvin Ritter, ESAT RPO, Region VI
FROM: Dr. Tom Chiang, ESAT Team Manager, Region VI
SUBJECT: CLP Data Review *J. C. H. My*
REF: TDF # 6-8164A, ESAT File No. I2169
ESAT Contract No. 68-D6-0005

Attached is the data review summary for Case #25969
SDG #MFHL25
Site Doyle F J
Transformers

COMMENTS:

I. CONTRACTUAL ASSESSMENT OF DATA PACKAGE:

The laboratory was contractually compliant as determined by the hard copy and CCS reviews.

II. TECHNICAL/USABILITY ASSESSMENT OF DATA PACKAGE:

A total of 48 results were reviewed for this data package. The package is technically acceptable.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10625 FALLSTONE ROAD
HOUSTON, TEXAS 77099

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 25969 SITE Doyle F J Transformers
LABORATORY AATS NO. OF SAMPLES 2
CONTRACT # 68-D5-0141 MATRIX Water
SDG # MFHL25 REVIEWER (IF NOT ESD) ESAT
SOW# ILM04.0 REVIEWER'S NAME Linda Hoffman
ACCT # 8FAXJN27 SF # FAXU1D COMPLETION DATE February 18, 1998

SAMPLE NO.: MFH-L25 _____
MFH-L96 _____

DATA ASSESSMENT SUMMARY

	ICP	HG	CYANIDE
1. HOLDING TIMES	<u>O</u>	<u>O</u>	<u>O</u>
2. CALIBRATIONS	<u>O</u>	<u>O</u>	<u>O</u>
3. BLANKS	<u>O</u>	<u>O</u>	<u>O</u>
4. MATRIX SPIKES	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
5. DUPLICATE ANALYSIS	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
6. ICP QC	<u>O</u>		
7. FAA QC			
8. LCS	<u>O</u>	<u>N/A</u>	<u>N/A</u>
9. SAMPLE VERIFICATION	<u>O</u>	<u>O</u>	<u>O</u>
10. OTHER QC	<u>O</u>	<u>O</u>	<u>O</u>
11. OVERALL ASSESSMENT	<u>O</u>	<u>O</u>	<u>O</u>

O = Data had no problems.

M = Data qualified because of major or minor problems.

Z = Data unacceptable.

N/A = Not applicable.

ACTION ITEMS:

AREAS OF CONCERN:

NOTABLE PERFORMANCE: The laboratory submitted the data package to the Region seven days early.

COMMENTS/CLARIFICATIONS
REGION 6 CLP REVIEW

Case 25969 SDG MFHL25 Site Doyle F J Transformers Lab AATS

COMMENTS: The package consisted of data for two water samples for total metals and cyanide analyses by ILM04.0. The sampler designated the samples as field QC samples but did not indicate the type of QC samples. The RSCC personnel informed the reviewer that the samples were rinsate samples. Since the samples are field QC, laboratory QC analyses were not required. The laboratory met the 35-day turnaround time requirement. Ninety-six percent of the reported results were below the CRDL's.

The data package is technically acceptable. The technical usability of all reported results is indicated in the Data Summary Table.

An Evidence Audit was conducted for the Complete Sample Delivery Group File (CSF), and the Evidence Inventory Checklist is included as part of this report.

NOTE: THE FOLLOWING REVIEW NARRATIVE ADDRESSES BOTH CONTRACTUAL ISSUES (BASED ON THE STATEMENT OF WORK) AND TECHNICAL ISSUES (BASED ON THE NATIONAL FUNCTIONAL GUIDELINES). THE ASSESSMENT MADE FOR EACH QC PARAMETER IS SOLELY BASED ON THE TECHNICAL DATA USABILITY, WHICH MAY NOT NECESSARILY BE AFFECTED BY CONTRACTUAL PROBLEMS.

1. **Holding Times:** Acceptable. Contractual and technical holding times and sample preservation criteria were met.
2. **Calibrations:** Acceptable. All calibrations met contractual requirements. The CRDL standard results indicated that instrument performance near the CRDL's was acceptable.
3. **Blanks:** Acceptable. Preparation and calibration blanks met contractual requirements although the laboratory reported 12 analytes in the blanks. Preparation blank concentrations affected the following results above the CRDL's as indicated.

- Zinc in sample MFH-L25 is considered undetected.

- Lead in sample MFH-L96 is considered biased high.

Rinsates: Rinsate sample MFH-L25 contained zinc above the CRDL and eight other analytes at concentrations below the CRDL's. The sodium and zinc concentrations in sample MFH-L25 were due to preparation blank concentrations of these analytes. Rinsate sample MFH-L96 contained lead at a concentration above the CRDL (2.4X) and 10 other analyte concentrations below the CRDL's. The aluminum, arsenic, calcium, and zinc concentrations in sample MFH-L96 were due to calibration or preparation blank concentrations of these

INORGANIC QA REVIEW
CONTINUATION PAGE

Case 25969 SDG MFHL25 Site Doyle F J Transformers Lab AATS

3. Blanks, continued:

analytes. ESAT does not have information identifying the samples associated with the rinsate samples, so no evaluation for potential effects can be performed.

4. Pre-digestion/Pre-distillation Matrix Spike Recovery: Not Applicable.
5. Duplicate Analysis: Not Applicable.
6. ICP Quality Control:

Serial Dilution: Not Applicable.

Interference Check Sample: Acceptable. Acceptable ICS results indicated satisfactory interelement and background correction.

Coefficient of Variation: Acceptable. Replicate ICP readings were consistent.

7. Furnace Atomic Absorption Quality Control: Not Applicable.
8. Laboratory Control Sample: Acceptable. Acceptable LCS results indicated satisfactory sample preparation and analysis.
9. Sample Verification: The reviewer detected a minor reporting error, and the laboratory was contacted for correction (see FAX Record Log).

The laboratory analyzed the two samples in this SDG on different ICP's. Therefore, the reported IDL's may be different for the same analyte.

10. Other QC: Not Applicable.
11. Overall Assessment: The data package is technically acceptable.

INORGANIC DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the ESAT-Region 6 qualifiers assigned to results in the inorganic data review process.

- U Undetected at the laboratory reported detection limit (IDL).
- L Reported concentration is between the IDL and the CRDL.
- J Result is estimated because of outlying quality control parameters such as matrix spike, serial dilution, FAA spike recovery, etc.
- R Result is unusable.
- F A possibility of a false negative exists.
- UC Reported concentration should be used as a raised detection limit because of apparent blank contamination.
- ^ High bias. Actual concentration may be lower than the concentration reported.
- v Low bias. Actual concentration may be higher than the concentration reported.

DATA SUMMARY

Case No.: 25969

SDG. No.: MFHL25

Reviewer: L. Hoffman

Laboratory: AATS

Matrix: WATER

Units: ug/L

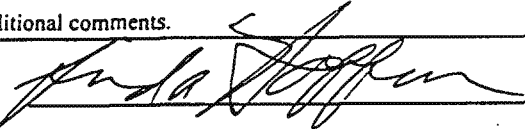
EPA TR #=>	FLAG	FLAG	FLAG	FLAG	FLAG	COMMENTS
	MFH-L25	MFH-L96				
ALUMINUM	9.5 LJv	22.3 LUC				
ANTIMONY	3.0 U	4.6 LUC				
ARSENIC	3.0 U	3.0 U				
BARIUM	1.0 U	1.1 L				
BERYLLIUM	1.0 U	1.0 U				
CADMIUM	1.0 U	1.0 U				
CALCIUM	153 L	70.2 LUC				
CHROMIUM	1.5 L	1.0 U				
COBALT	1.2 L	1.0 U				
COPPER	2.0 U	1.0 U				
IRON	54.8 L	7.3 LJv				
LEAD	2.0 U	7.1 J~				
MAGNESIUM	70.0 U	17.9 L				
MANGANESE	1.6 L	1.3 L				
MERCURY	0.10 U	0.10 U				
NICKEL	2.7 L	1.0 U				
POTASSIUM	33.0 U	56.1 LJv				
SELENIUM	5.0 U	4.0 U				
SILVER	2.0 U	1.0 U				
SODIUM	296 LUC	133 L				
THALLIUM	4.0 U	4.0 U				
VANADIUM	1.0 U	1.0 U				
ZINC	24.4 UC	11.0 LUC				
CYANIDE	1.0 U	1.0 U				

INORGANIC/ORGANIC COMPLETE SDG FILE (CSF) INVENTORY CHECKLIST

Case No. 25969 SDG No. MFHL25 SDG Nos. To Follow _____ SAS No. _____ Date Rec 02/12/98

EPA Lab ID: <u>AATS</u> Lab Location: <u>Broken Arrow, OK</u> Region: <u>6</u> Audit No.: <u>25969/MFHL25</u> Re_Submitted CSF? Yes _____ No <u>X</u> Box No(s): <u>1</u> COMMENTS: 3. The laboratory made a few page number errors that the reviewer corrected.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 75%;">ORIGINALS</th> <th style="width: 10%;">YES</th> <th style="width: 10%;">NO</th> <th style="width: 5%;">N/A</th> </tr> </thead> <tbody> <tr> <td>CUSTODY SEALS</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1. Present on package?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>2. Intact upon receipt?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>FORM DC-2</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3. Numbering scheme accurate?</td> <td></td> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td>4. Are enclosed documents listed?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>5. Are listed documents enclosed?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>FORM DC-1</td> <td></td> <td></td> <td></td> </tr> <tr> <td>6. Present?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>7. Complete?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>8. Accurate?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>CHAIN-OF-CUSTODY RECORD(s)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>9. Signed?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>10. Dated?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>TRAFFIC REPORT(s) PACKING LIST(s)</td> <td></td> <td></td> <td></td> </tr> <tr> <td>11. Signed?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>12. Dated?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>AIRBILLS/AIRBILL STICKER</td> <td></td> <td></td> <td></td> </tr> <tr> <td>13. Present?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>14. Signed?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>15. Dated?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>SAMPLE TAGS</td> <td></td> <td></td> <td></td> </tr> <tr> <td>16. Does DC-1 list tags as being included?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>17. Present?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>OTHER DOCUMENTS</td> <td></td> <td></td> <td></td> </tr> <tr> <td>18. Complete?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>19. Legible?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>20. Original?</td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>20a. If "NO", does the copy indicate where original documents are located?</td> <td></td> <td></td> <td style="text-align: center;">X</td> </tr> </tbody> </table>	ORIGINALS	YES	NO	N/A	CUSTODY SEALS				1. Present on package?	X			2. Intact upon receipt?	X			FORM DC-2				3. Numbering scheme accurate?		X		4. Are enclosed documents listed?	X			5. Are listed documents enclosed?	X			FORM DC-1				6. Present?	X			7. Complete?	X			8. Accurate?	X			CHAIN-OF-CUSTODY RECORD(s)				9. Signed?	X			10. Dated?	X			TRAFFIC REPORT(s) PACKING LIST(s)				11. Signed?	X			12. Dated?	X			AIRBILLS/AIRBILL STICKER				13. Present?	X			14. Signed?	X			15. Dated?	X			SAMPLE TAGS				16. Does DC-1 list tags as being included?	X			17. Present?	X			OTHER DOCUMENTS				18. Complete?	X			19. Legible?	X			20. Original?	X			20a. If "NO", does the copy indicate where original documents are located?			X
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Over for additional comments.

Audited by: 
 Audited by: _____
 Audited by: _____
Signature

Linda Hoffman /ESAT Data Reviewer

Date 02/16/98

Date _____

Date _____

Printed Name/Title

TO BE COMPLETED BY CEAT

Date Recvd by CEAT: _____

Date Entered: _____

Date Reviewed: _____

Entered by: _____

Reviewed by: _____

Signature

Printed Name/Title

In Reference to
Case 25969/SDG MFHL25
Page 1 of 1 page
ESAT File No.: I2169

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

FAX Record Log

Date of FAX: February 18, 1998

Laboratory Name: AATS

Lab Contact: Jason Ruckman

Region: 6

Regional Contact: Linda Hoffman (ESAT)

FAX Initiated by: Region

In reference to data for the following sample number(s):

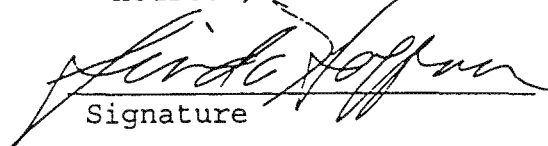
All samples in this SDG.

Summary of Questions/Issues:

1. The cooler temperature was not recorded on the case narrative (ILM04.0, Exhibit A, Task I, A-6, last paragraph of #5). Please acknowledge and note for the future.
2. On page 94 of the raw data, the EPA sample number should be "S0", not "S". Please correct and resubmit page 94.
3. On pages 125 and 126 of the cyanide raw data has an S5 standard but Form 14 (p. 42) has an S20 standard. If this discrepancy was not corrected in response to CCS, please correct and resubmit Form 14.

The EPA expects the laboratory to look into the above items and submit the data within 7 days to:

Attn: Mahmoud El-Feky - U.S. EPA
10625 Fallstone Road
Houston, TX 77099


Signature

02/18/98
Date

Distribution: (1) Lab Copy, (2) Region Copy

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFHL25

Lab Name: AMERICAN ANALYTICAL Contract: 68-D5-0141

Lab Code: AATS Case No.: 25969 SAS No.:

SDG No.: MFHL25

Matrix (soil/water): WATER

Lab Sample ID: 32431.01

Level (low/med): LOW

Date Received: 01/15/98

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	9.5	B		P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	153	B		P
7440-47-3	Chromium	1.5	B		P
7440-48-4	Cobalt	1.2	B		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	54.8	B		P
7439-92-1	Lead	2.0	U		P
7439-95-4	Magnesium	70.0	U		P
7439-96-5	Manganese	1.6	B		P
7439-97-6	Mercury	0.10	U		CV
7440-02-0	Nickel	2.7	B		P
7440-09-7	Potassium	33.0	U		P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	296	B		P
7440-28-0	Thallium	4.0	U		P
7440-62-2	Vanadium	1.0	U		P
7440-66-6	Zinc	24.4			P
	Cyanide	1.0	U		CA

Color Before: COLORLESS

Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS

Clarity After: CLEAR

Artifacts: _____

Comments:

EPA SAMPLE NO.


MFHL96

[illegible]

Texture: _____
Artifacts: _____

Comments:

5

		United States Environmental Protection Agency Contract Laboratory Program				Inorganic Traffic Report & Chain of Custody Record (For Inorganic CLP Analysis)		Case No. 25969				
1. Project Code		Account Code		2. Region No. 6 Sampling Co. TNRCC		4. Date Shipped 1-14-98 Carrier Airborne Express		6. Matrix (Enter in Column A)				
Regional Information		3. Sampler (Name) Ray Newby		Airbill Number 2423938333		5. Ship To AATS 1700 West Albany, Suite C Broken Arrow, OK. 74012		7. Preservative (Enter in Column D)				
Non-Superfund Program		3. Purpose		5. Ship To		6. Matrix (Enter in Column A)		7. Preservative (Enter in Column D)				
Site Name Frank J Doyle Transformer		Lead <input checked="" type="checkbox"/> SF <input type="checkbox"/> PRP <input type="checkbox"/> ST <input type="checkbox"/> FED		Early Action <input type="checkbox"/> CLEM <input type="checkbox"/> PA <input type="checkbox"/> REM <input type="checkbox"/> RI <input checked="" type="checkbox"/> SI <input type="checkbox"/> ESI		Long-Term Action <input type="checkbox"/> FS <input type="checkbox"/> RD <input type="checkbox"/> RA <input type="checkbox"/> O&M <input type="checkbox"/> NPLD		1. Surface Water 2. Ground Water 3. Leachate 4. Field QC 5. Soil/Sediment 6. Oil (High only) 7. Waste (High only) 8. Other (specify in Column A)				
City, State Leonard, Texas		Site Spill ID		ATTN: Chuck Hoover		1. HCl 2. HNO ₃ 3. NaOH 4. H ₂ SO ₄ 5. K ₂ Cr ₂ O ₇ 6. Ice only 7. Other (specify in Column D) N. Not preserved						
CLP Sample Numbers (from labels)	A Matrix (from Box 6) Other:	B Conc.: Low Med High	C Sample Type: Comp./ Grab	D Preservative (from Box 7) Other:	E - RAS Analysis Diss. Metals Total Metals Cyanide NO ₂ /NO ₃ Low only High only Fluoride pH Conduct.		F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier B = Blank S = Spike D = Duplicate R = Rinse PE = Perform. Eval. - = Not a QC Sample
MFHM13	5	low	grab	6	X	X	6-164749-750	SO-01	1/13/98 1330	FFR91	RN	
MFHM14	5	low	grab	6	X	X	6-164755-756	SO-02	1/13/98 1345	FFR92	RN	
MFHM09	5	low	grab	6	X	X	6-164761-762	SO-03	1/13/98 1415	FFR87	RN	
MFHM07	5	low	grab	6	X	X	6-164785-786	SO-07	1/13/98 1500	FFR85	RN	
MFHM08	5	low	grab	6	X	X	6-164791-792	SO-08	1/13/98 1515	FFR86	RN	
MFHM03	5	low	grab	6	X	X	6-164797-798	SO-09	1/13/98 1530	FFR81	RN	
MFHM04	5	low	grab	6	X	X	6-162804-805	SO-10	1/13/98 1535	FFR82	RN	
MFHM05	5	low	grab	6	X	X	6-162810-811	SO-11	1/13/98 1610	FFR83	RN	
MFHL98	5	low	grab	6	X	X	6-162840-841	SO-16	1/13/98 1630	FFR76	RN	
MFHM10	5	low	grab	6	X	X	6-164767-768	SO-04	1/14/98 1000	FFR88	CK	
Shipment for Case Complete? (Y/N) No		Page 1 of 3		Sample(s) to be Used for Laboratory QC MFHM05			Additional Sampler Signatures		Chain of Custody Seal Number(s) 114192			

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature) Shirley P. Jones	Date / Time 01/14/98 14:30	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/none

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SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS
*SEE REVERSE FOR PURPOSE CODE DEFINITIONS

5
pg. 2

United States Environmental Protection Agency Contract Laboratory Program				Inorganic Traffic Report & Chain of Custody Record (For Inorganic CLP Analysis)				Case No. <div style="font-size: 1.5em; font-family: cursive;">25969</div>			
1. Project Code		Account Code		2. Region No.		Sampling Co.		4. Date Shipped		Carrier	
				6		TNRCC		1-14-98		Airborne Express	
Regional Information				Sampler (Name)				Airbill Number			
				Gury Hazelwood				2423938333			
Non-Superfund Program				Sampler Signature				5. Ship To			
				Gury Hazelwood				AATS			
Site Name				3. Purpose				1700 West Albany, Suite C			
Frank J. Doyle Transformer				<input checked="" type="checkbox"/> SF <input type="checkbox"/> PRP <input type="checkbox"/> ST <input type="checkbox"/> FED				Broken Arrow, OK 74012			
City, State		Site Spill ID		Early Action <input type="checkbox"/> CLEM <input type="checkbox"/> PA <input type="checkbox"/> REM <input type="checkbox"/> RI <input checked="" type="checkbox"/> SI <input type="checkbox"/> ESI				Long-Term Action <input type="checkbox"/> FS <input type="checkbox"/> RD <input type="checkbox"/> RA <input type="checkbox"/> O&M <input type="checkbox"/> NPLD			
Leonard, TX								ATTN: Chuck Hoover			

CLP Sample Numbers (from labels)	A Matrix (from Box 6)	B Conc. Low Med High	C Sample Type: Comp./Grab	D Preservative (from Box 7)	E - RAS Analysis							F Regional Specific Tracking Number or Tag Numbers	G Station Location Identifier	H Mo/Day/Year/Time Sample Collection	I Corresponding CLP Organic Sample No.	J Sampler Initials	K Field QC Qualifier
					Diss. Metals	Total Metals	Cyanide	Low only NO ₂ /NO ₃	High only Fluoride	pH	Conduct.						
MFHL96	4	Low	Grab	5		XX						6-164733-734	ERO1	01/14/98 8:45	FFR 74	GH	
MFHL25	4	Low	Grab	5		XX						6-164738-739	ERO2	01/14/98 12:50	FFR 69	GH	
MFHM11	5	Low	Comp	5		XX						6-164773-774	SO-05	01/14/98 10:15	FFR 89	GH	
MFHM06	5	Low	Comp	5		XX						6-164779-780	SO-06	01/14/98 10:25	FFR 84	GH	
MFHM08	5	Low	Comp	5		XX						6-162816-817	SO-12	01/14/98 10:30	FFR 78	GH	
MFHM01	5	Low	Grab	5		XX						6-162822-823	SO-13	01/14/98 9:20	FFR 79	GH	
MFHM02	5	Low	Grab	5		XX						6-162828-829	SO-14	01/14/98 9:10	FFR 80	GH	
MFHL97	5	Low	Grab	5		XX						6-162834-835	SO-15	01/14/98 9:15	FFR 75	GH	D
MFHL99	5	Low	Grab	5		XX						6-162846-847	SO-17	01/14/98 11:30	FFR 77	GH	
MFHL94	5	Low	Grab	5		XX						6-162852-853	SO-18	01/14/98 11:45	FFR 72	GH	

Shipment for Case Complete? (Y/N)		Page 2 of 2	Sample(s) to be Used for Laboratory QC		Additional Sampler Signatures		Chain of Custody Seal Number(s)	
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CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
<i>[Signature]</i>	01/14/98 19:30				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Is custody seal intact? Y/N/none	

A21-012-13 REV



Inorganic Traffic Report & Chain of Custody Record (For Inorganic CLP Analysis)

Case No.

25969

(53)

[illegible]

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature) <i>[Signature]</i>	Date / Time 01/14/98 14:30	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/none

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10625 FALLSTONE RD.
HOUSTON, TEXAS 77099

MEMORANDUM

Date: February 27, 1998
Subject: Contract Laboratory Program Data Review
From: *Marvelyn Humphrey* Marvelyn Humphrey, Alternate ESAT RPO GMD-HC
To: B. KIRCHNER, 6SF-RA

Site: DOYLE, FRANK J. TRANSFORMERS
Case#: 25969
SDG#: MFHL94

The EPA Region 6 Houston Branch ESAT data review team has completed a review of the submitted Contract Laboratory Program (CLP) data package for the referenced site. The samples analyzed and reviewed are detailed in the attached Regional data review report.

The data package was found to be:

- () Acceptable; No major problems with data package.
(X) Provisional; Data is acceptable for Regional use.
Problems are noted in the review report.

If you have any questions regarding the data review report, please call me at (281) 983-2146.

Attachments

cc: R. Flores, Region 6 CLP/TPO
M. El-feky, Region 6 Data Coordinator
Files (2)



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HOUSTON, TEXAS 77074

MEMORANDUM

DATE: February 26, 1998
TO: Dr. Melvin Ritter, ESAT RPO, Region VI
FROM: Dr. Tom C.H. Chiang, ESAT Team Manager, Region VI
SUBJECT: CLP Data Review *Tom C.H. Chiang*
REF: TDF # 6-8166A, ESAT File # I-2170
ESAT Contract No. 68-D6-0005

Attached is the data review summary for Case # 25969
SDG # MFHL94
Site DOYLE F J
TRANSFORMERS

COMMENTS:

I. CONTRACTUAL ASSESSMENT OF DATA PACKAGE:

The package was contractually compliant as determined by CCS and the Regional review.

II. TECHNICAL/USABILITY ASSESSMENT OF DATA PACKAGE:

A total of 456 results were reviewed for this data package. The package is technically provisional because of the following problems.

- A. The reviewer qualified approximately 18 percent of the results.
- B. The antimony matrix spike recovery was below the QC limit.
- C. Six selenium analyses had coefficients of variation greater than 20 percent.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10625 FALLSTONE ROAD
HOUSTON, TEXAS 77099

INORGANIC REGIONAL DATA ASSESSMENT

CASE NO. 25969 SITE DOYLE F J TRANSFORMERS
LABORATORY AATS NO. OF SAMPLES 19
CONTRACT# 68-D5-0141 MATRIX soil
SDG# MFHL94 REVIEWER (IF NOT ESD) ESAT
SOW# RAS ILM04.0 REVIEWER'S NAME Mike Fertitta
ACCT# 8FAXJN27 SF# FAXU1D COMPLETION DATE February 26, 1998

SAMPLE NO.'s: MFH-L94 MFH-L99 MFH-M03 MFH-M07 MFH-M11
MFH-L95 MFH-M00 MFH-M04 MFH-M08 MFH-M13
MFH-L97 MFH-M01 MFH-M05 MFH-M09 MFH-M14
MFH-L98 MFH-M02 MFH-M06 MFH-M10

DATA ASSESSMENT SUMMARY

	ICP	HG	CN
1. HOLDING TIMES	<u>O</u>	<u>O</u>	<u>O</u>
2. CALIBRATIONS	<u>O</u>	<u>O</u>	<u>O</u>
3. BLANKS	<u>O</u>	<u>O</u>	<u>O</u>
4. MATRIX SPIKES	<u>M</u>	<u>O</u>	<u>O</u>
5. DUPLICATE ANALYSIS	<u>M</u>	<u>O</u>	<u>O</u>
6. ICP QC	<u>M</u>		
7. FAA QC			
8. LCS	<u>O</u>	<u>O</u>	<u>O</u>
9. SAMPLE VERIFICATION	<u>O</u>	<u>O</u>	<u>O</u>
10. OTHER QC	<u>O</u>	<u>O</u>	<u>O</u>
11. OVERALL ASSESSMENT	<u>M</u>	<u>O</u>	<u>O</u>

O = Data had no problems.
M = Data qualified because of minor or major problems.
Z = Data unacceptable.
N/A = Not applicable.

ACTION ITEMS:

AREAS OF CONCERN: The antimony matrix spike recovery was less than 75 percent. The aluminum RPD was greater than 35 percent for the laboratory duplicate analyses. Serial dilution percent differences exceeded 10 percent for calcium and zinc. ICP coefficients of variation exceeded 20 percent for six selenium analyses.

NOTABLE PERFORMANCE: The package was two days early for the 35-day contractual data package turnaround time.

INORGANIC QA REVIEW
CONTINUATION PAGE

CASE 25969 SDG MFHL94 SITE DOYLE F J TRANSFORMERS LAB AATS

COMMENTS: The laboratory analyzed 19 soil samples for total metals and cyanide by SOW ILM04.0. The sampler identified sample MFH-M05 as the laboratory QC sample and samples MFH-L97/MFH-M02 and MFH-M03/MFH-M04 as field duplicate pairs. The data package arrived at EPA 2 days early for the 35-day contractual data package turnaround time.

Approximately 60 percent of the reported results were above the CRDL's. The data package is technically provisional because of problems with a matrix spike recovery, a laboratory duplicate RPD, serial dilution percent differences, and ICP coefficients of variation. The technical usability of the sample results is discussed below, and any qualifications are listed in the Data Summary Table.

The reviewer conducted an Evidence Audit for the Complete Sample Delivery Group File (CSF), and the results are reported in the Evidence Inventory Checklist.

NOTE: THE FOLLOWING REVIEW NARRATIVE ADDRESSES BOTH CONTRACTUAL ISSUES (BASED ON THE STATEMENT OF WORK) AND TECHNICAL ISSUES (BASED ON THE NATIONAL FUNCTIONAL GUIDELINES). THE ASSESSMENT MADE FOR EACH QC PARAMETER IS SOLELY BASED ON THE TECHNICAL DATA USABILITY, WHICH MAY NOT NECESSARILY BE AFFECTED BY CONTRACTUAL PROBLEMS.

1. **Holding Times:** Acceptable. Sample preservation met contractual requirements. The laboratory analyzed the samples within the contractual holding time limits. Technical holding time limits have not yet been established for soil samples.
2. **Calibrations:** Acceptable. Instrument calibrations met contractual requirements. CRDL standard analyses indicated acceptable instrument performance near the CRDL's.
3. **Blanks:** Acceptable. All laboratory blanks met contractual criteria although the laboratory reported 10 analytes in the blanks. Laboratory blank concentrations for four analytes affected sample results below the CRDL's and one mercury and two arsenic results above the CRDL's. The arsenic results are biased low for samples MFH-M13 and MFH-M14, and the mercury result should be considered undetected for sample MFH-M14.

Rinsates: The samples in this SDG may be associated with rinsate samples MFH-L25 and MFH-L96 in SDG MFH-L25. Rinsate

INORGANIC QA REVIEW
CONTINUATION PAGE

CASE 25969 SDG MFHL94 SITE DOYLE F J TRANSFORMERS LAB AATS

3. Blanks (continued):

sample MFH-L25 contained zinc above the CRDL and eight other analytes at concentrations below the CRDL's. The sodium and zinc concentrations in sample MFH-L25 were due to preparation blank concentrations of these analytes. Rinsate sample MFH-L96 contained lead at a concentration above the CRDL (2.4X) and 10 other analyte concentrations below the CRDL's. The aluminum, arsenic, calcium, and zinc concentrations in sample MFH-L96 were due to calibration or preparation blank concentrations of these analytes. ESAT does not have information identifying the samples associated with the rinsate samples, so no evaluation for potential effects can be performed.

4. **Pre-digestion/Pre-distillation Matrix Spike Recovery:** Provisional. The reviewer qualified the antimony sample results as estimated and biased low because the matrix spike recovery was below the QC limit.

5. **Duplicate Analysis:** Provisional. The reviewer qualified the aluminum sample results as estimated because the duplicate difference exceeded the technical QC limit. The chromium difference exceeded the SOW QC limit but was below the technical limit, so chromium sample results were not qualified.

6. ICP Quality Control:

Interference Check Sample: Acceptable. Analyte recoveries for True Solution AB were within the QC limits. ICSA analyses indicated acceptable application of interelement and background corrections.

Serial Dilution: Provisional. The reviewer qualified the calcium and zinc sample results as estimated because the percent differences exceeded the QC limit. The serial dilution results were higher than the undiluted results, indicating that matrix interferences suppressed the signals for those analytes. Therefore, the calcium and zinc sample results were also qualified as low biased.

Coefficients of Variation: Provisional. The reviewer qualified as estimated the selenium results for samples MFH-L94, MFH-L97, MFH-L99, MFH-M00, MFH-M09, and MFH-M14 because coefficients of variation exceeded 20 percent.

7. **Furnace Atomic Absorption (FAA) Quality Control:** Not Applicable.

INORGANIC QA REVIEW
CONTINUATION PAGE

CASE 25969 SDG MFHL94 SITE DOYLE F J TRANSFORMERS LAB AATS

8. **Laboratory Control Sample (LCS):** Acceptable. Acceptable LCS results indicated satisfactory sample preparation and analysis.
9. **Sample Verification:** The laboratory was contacted concerning some CSF problems and minor reporting errors (see the Phone and FAX Record Logs).
10. **Other QC:**

Field Duplicates: Acceptable.. Consistent field duplicate results indicated satisfactory sampler and laboratory precision.
11. **Overall Assessment:** The data package is technically provisional with the following problems.

The reviewer qualified the antimony, calcium, and zinc sample results because of matrix related problems.

The reviewer qualified the aluminum sample results because of poor laboratory precision.

The reviewer qualified six selenium results because of poor ICP precision.

INORGANIC DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the ESAT Region 6 qualifiers assigned to results in the inorganic data review process.

- U Undetected at the laboratory reported detection limit (IDL).
- L Reported concentration is between the IDL and the CRDL.
- J Result is estimated because of outlying quality control parameters such as matrix spike, serial dilution, FAA spike recovery, etc.
- R Result is unusable.
- F A possibility of a false negative exists.
- UC Reported concentration should be used as a raised detection limit because of apparent blank contamination.
- ^ High bias. Actual concentration may be lower than the concentration reported.
- v Low bias. Actual concentration may be higher than the concentration reported.

DATA SUMMARY

Case No.: 25969

SDG. No.: MFHL94

Reviewer: M. FERTITTA

Laboratory: AATS

Matrix: SOIL

Units: mg/Kg

EPA TR #=>	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	COMMENTS
	MFH-L94	MFH-L95	MFH-L97	MFH-L98	MFH-L99		
ALUMINUM	21600 J	22100 J	11100 J	7040 J	8850 J		
ANTIMONY	0.79 UJv	0.80 UJv	1.1 LUCJv	0.72 UJv	0.77 UJv		
ARSENIC	9.0	8.4	9.4	14.5	7.3		
BARIUM	216	303	206	89.6	200		
BERYLLIUM	1.3	1.5	0.94 L	0.51 L	0.75 L		
CADMIUM	0.78 L	0.27 U	1.3	0.39 L	0.31 L		
CALCIUM	56000 Jv	29200 Jv	54200 Jv	29600 Jv	60400 Jv		
CHROMIUM	27.0	26.0	19.3	15.5	11.7		
COBALT	15.5	18.1	12.2 L	5.9 L	8.8 L		
COPPER	204	30.9	1390	1100	279		
IRON	18100	21300	17500	11400	11600		
LEAD	33.8	26.5	57.6	35.2	30.0		
MAGNESIUM	3190	2780	3130	1210	2050		
MANGANESE	1990	2060	1460	711	1210		
MERCURY	0.05 U	0.06 U	0.11 LUC	0.06 U	0.06 U		
NICKEL	31.7	30.4	20.9	12.0	16.6		
POTASSIUM	2590	3810	1730	1260	2920		
SELENIUM	1.3 UJ	1.3 U	1.2 UJ	1.2 U	1.3 UJ		
SILVER	0.53 U	0.53 U	0.50 U	0.48 U	0.51 U		
SODIUM	345 L	344 L	244 L	258 L	404 L		
THALLIUM	1.1 U	1.2 L	1.0 L	0.96 U	1.0 U		
VANADIUM	72.2	79.8	50.1	24.2	35.2		
ZINC	101 Jv	81.9 Jv	159 Jv	69.3 Jv	125 Jv		
CYANIDE	0.40 L	0.25 L	0.25 L	0.18 L	0.30 L		
% SOLIDS	75.7	75.3	76.3	83.0	77.9		

DATA SUMMARY

Case No.: 25969

SDG. No.: MFHL94

Reviewer: M. FERTITTA

Laboratory: AATS

Matrix: SOIL

Units: mg/Kg

EPA TR #=>	FLAG	FLAG	FLAG	FLAG	FLAG	FLAG	COMMENTS
	MFH-M00	MFH-M01	MFH-M02	MFH-M03	MFH-M04		
ALUMINUM	16500 J	13300 J	14800 J	15600 J	14900 J		
ANTIMONY	0.80 UJv	1.1 LUCJv	0.98 LUCJv	0.93 UJv	0.97 UJv		
ARSENIC	6.8	22.6	9.2	6.8	7.6		
BARIUM	214	206	195	139	148		
BERYLLIUM	1.1 L	0.90 L	1.1 L	0.94 L	0.98 L		
CADMIUM	0.27 U	0.85 L	0.77 L	0.42 L	0.48 L		
CALCIUM	11100 Jv	67500 Jv	60700 Jv	133000 Jv	139000 Jv		
CHROMIUM	22.7	20.4	27.1	20.9	20.5		
COBALT	13.8	10.8 L	10.5 L	8.2 L	8.6 L		
COPPER	54.7	1760	1860	105	115		
IRON	19200	16700	16200	12600	15700		
LEAD	35.3	76.5	70.0	59.7	62.2		
MAGNESIUM	1930	3020	3370	3330	3450		
MANGANESE	1400	1340	1100	897	949		
MERCURY	0.11 LUC	0.06 U	0.06 U	0.14 LUC	0.08 U		
NICKEL	21.7	18.6	20.1	20.6	21.3		
POTASSIUM	1810	1870	2050	2030	2000		
SELENIUM	1.3 UJ	1.2 U	1.3 U	1.6 U	1.6 U		
SILVER	0.53 U	0.50 U	0.53 U	0.62 U	0.64 U		
SODIUM	320 L	359 L	359 L	438 L	436 L		
THALLIUM	1.1 U	0.99 U	1.1 U	1.2 U	1.3 U		
VANADIUM	59.2	44.2	53.8	49.7	51.2		
ZINC	117 Jv	143 Jv	189 Jv	152 Jv	169 Jv		
CYANIDE	0.19 L	0.23 L	0.29 L	0.35 L	0.80		
% SOLIDS	74.9	80.7	75.0	64.2	62.1		

DATA SUMMARY

Case No.: 25969

SDG. No.: MFHL94

Reviewer: M. FERTITTA

Laboratory: AATS

Matrix: SOIL

Units: mg/Kg

EPA TR #=>	FLAG	FLAG	FLAG	FLAG	FLAG	COMMENTS
	MFH-M05	MFH-M06	MFH-M07	MFH-M08	MFH-M09	
ALUMINUM	11600 J	11800 J	12100 J	7260 J	21500 J	
ANTIMONY	0.95 LUCJv	0.84 LUCJv	0.97 LUCJv	0.97 UJv	0.90 UJv	
ARSENIC	7.6	8.0	8.9	10.9	9.8	
BARIUM	144	236	113	128	224	
BERYLLIUM	0.82 L	0.92 L	0.89 L	0.74 L	1.5 L	
CAESIUM	1.1 L	0.27 U	0.46 L	0.75 L	0.30 U	
CALCIUM	106000 Jv	35500 Jv	145000 Jv	148000 Jv	29700 Jv	
CHROMIUM	17.7	14.0	17.3	11.1	25.7	
COBALT	7.2 L	14.1	6.0 L	8.0 L	15.1	
COPPER	1580	18.0	98.4	42.7	20.0	
IRON	13000	13000	16000	13300	23600	
LEAD	73.5	16.9	30.6	107	24.6	
MAGNESIUM	5270	4000	4510	2350	2930	
MANGANESE	738	1100	634	910	1300	
MERCURY	0.06 U	0.07 U	0.07 U	0.08 U	0.08 U	
NICKEL	17.8	19.2	17.4	16.5	34.0	
POTASSIUM	1900	1400	1890	1210 L	2470	
SELENIUM	1.3 U	1.4 U	1.5 U	1.6 U	1.5 UJ	
SILVER	0.53 U	0.54 U	0.60 U	0.65 U	0.60 U	
SODIUM	442 L	380 L	481 L	605 L	383 L	
THALLIUM	1.1 L	1.1 U	1.3 L	1.3 U	1.2 U	
VANADIUM	35.8	42.0	41.9	33.5	79.6	
ZINC	126 Jv	90.0 Jv	169 Jv	160 Jv	88.0 Jv	
CYANIDE	0.22 L	0.14 L	0.22 L	0.33 L	0.22 L	
% SOLIDS	75.9	73.9	66.5	61.7	66.6	

DATA SUMMARY

Case No.: 25969

SDG. No.: MFHL94

Reviewer: M. FERTITTA

Laboratory: AATS

Matrix: SOIL

Units: mg/Kg

EPA TR #=>	FLAG	FLAG	FLAG	FLAG	FLAG	COMMENTS
	MFH-M10	MFH-M11	MFH-M13	MFH-M14		
ALUMINUM	15800 J	2540 J	10500 J	6960 J		
ANTIMONY	0.76 UJv	0.79 LUCJv	0.82 UJv	2.4 LUCJv		
ARSENIC	6.6	0.98 LJv	4.3 Jv	3.7 Jv		
BARIUM	129	58.8	71.0	89.9		
BERYLLIUM	0.86 L	0.31 L	0.72 L	0.54 L		
CADMIUM	0.25 U	0.25 U	0.27 U	0.41 L		
CALCIUM	48400 Jv	16500 Jv	232000 Jv	239000 Jv		
CHROMIUM	18.3	8.2	14.1	11.4		
COBALT	5.9 L	4.0 L	5.3 L	5.2 L		
COPPER	22.9	10.5	11.6	20.6		
IRON	12900	5940	12500	12700		
LEAD	13.6	4.9	14.6	27.9		
MAGNESIUM	2850	689 L	2410	2180		
MANGANESE	494	310	541	544		
MERCURY	0.06 U	0.06 U	0.13 LUC	0.15 UC		
NICKEL	15.1	5.4 L	14.8	11.4 L		
POTASSIUM	1810	510 L	2210	2590		
SELENIUM	1.3 U	1.2 U	1.4 U	2.6 J		
SILVER	0.51 U	0.49 U	0.55 U	0.61 U		
SODIUM	352 L	256 L	526 L	511 L		
THALLIUM	1.1 L	0.98 U	1.1 U	1.9 L		
VANADIUM	39.6	14.1	34.9	23.3		
ZINC	46.7 Jv	21.7 Jv	51.9 Jv	202 Jv		
CYANIDE	0.19 L	0.05 L	0.27 LUC	0.12 LUC		
% SOLIDS	78.6	81.3	73.0	65.3		

INORGANIC/ORGANIC COMPLETE SDG FILE (CSF) INVENTORY CHECKLIST

Case No. 25969 SDG No. MFHL94 SDG Nos. To Follow _____ SAS No. _____ Date Rec 02/17/98

EPA Lab ID:	AATS	ORIGINALS	YES	NO	N/A
Lab Location:	Broken Arrow, OK	CUSTODY SEALS			
Region:	6 Audit No.: 25969/MFHL94	1. Present on package?	X		
Re_Submitted CSF?	Yes No X	2. Intact upon receipt?	X		
Box No(s):	1	FORM DC-2			
COMMENTS:		3. Numbering scheme accurate?		X	
3 The reviewer made some minor pagination corrections on the Form.		4. Are enclosed documents listed?	X		
		5. Are listed documents enclosed?	X		
		FORM DC-1			
		6. Present?	X		
		7. Complete?	X		
		8. Accurate?	X		
		CHAIN-OF-CUSTODY RECORD(s)			
		9. Signed?	X		
		10. Dated?	X		
		TRAFFIC REPORT(s) PACKING LIST(s)			
		11. Signed?	X		
		12. Dated?	X		
		AIRBILLS/AIRBILL STICKER			
		13. Present?	X		
		14. Signed?	X		
		15. Dated?	X		
		SAMPLE TAGS			
		16. Does DC-1 list tags as being included?	X		
		17. Present?	X		
		OTHER DOCUMENTS			
		18. Complete?	X		
		19. Legible?	X		
		20. Original?		X	
		20a. If "NO", does the copy indicate where original documents are located?	X		

Over for additional comments.

Over for additional comments.

Audited by: Michael J. Festella
Audited by: _____
Audited by: _____
Signature

Michael J. Fertitta/ ESAT Data Reviewer

Date 02/19/98

Date _____

Date _____

Printed Name/Title

TO BE COMPLETED BY CEAT

Date Recvd by CEAT:

Date Entered:

Date Reviewed:

Entered by:

Reviewed by:

Signature

Printed Name/Title

DC-2

Rev. 3/97

In Reference To
Case 25969 SDG MFHL94
ESAT File No. I-2170

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of FAX: February 23, 1998
Laboratory Name: AATS
Lab Contact: Deborah J. Inman
Region: 6
Regional Contact: Michael J. Fertitta-ESAT
FAX initiated by: Laboratory X Region

In reference to data for the following samples:

All samples in the SDG.

Summary of Questions/Issues:

Form 14 (page 74) was missing the ICP analyses found on raw data pages 121 to 139.

Resolution:

Ms. Inman will FAX the Form 14 as soon as possible. The original is expected to be in the laboratory response to CCS.

Michael J. Fertitta
Signature

02/23/98
Date

Distribution: (1) Lab Copy, (2) Region Copy

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

FAX Record Log

Date of FAX: February 26, 1998
Laboratory Name: AATS
Lab Contact: Deborah J. Inman
Region: 6
Regional Contact: Michael J. Fertitta-ESAT
FAX initiated by: Laboratory X Region

In reference to data for the following samples:

All samples in the SDG.

Summary of Questions/Issues:

A. CSF Deliverables

1. The sample cooler temperature (pages 316 to 317) was not recorded in the SDG Narrative (pages 343 to 344) (ILM04.0, A-6, last paragraph of A.I.5). Please provide this information in the narrative for future cases.
2. The sample receipt date on Form 1 for sample MFH-M10 (page 18) should be 01/15/98, not 01/14/98. Please submit this correction unless it has already been submitted in response to CCS.

B. ICP

1. Thank you for the FAX'd corrections to page 74 of Form 14. At this time, please submit the original with the additional corrections addressed below.
2. The raw data concentrations would support page 78 of Form 14 that reports that the zinc analyses should be used from the 02/02/98 ICP sequence for samples MFH-M10, MFH-M11, and MFH-M13. This would make the following corrections necessary.
 - a. The zinc concentration for sample MFH-M10 should be 46.7 mg/Kg, not 65.2 mg/Kg. Please correct and resubmit the Form 1 (page 18).
 - b. The zinc concentration for sample MFH-M14 should be 202 mg/Kg, not 254 mg/Kg. Please correct and resubmit the Form 1 (page 21).

In Reference To
Case 25969 SDG MFHL94
ESAT File No. I-2170
Page 2 of 2 Pages

- c. Form 14, page 74: The "X" should be removed from zinc for sample MFH-M10, and an "X" should be added to zinc for sample MFH-M14. Please resubmit the corrected Form 14.
3. The ICP standard on page 147 should be "S", not "S0". Please resubmit pages 146/147 (double-sided) with the requested correction unless they have already been submitted in response to CCS.

The EPA expects the laboratory to look into the above items and submit the data within 7 days to:

Attn: Mahmoud El-Feky - U.S. EPA
10625 Fallstone Road
Houston, TX 77099

If you have any questions, please contact me at (713) 988-2993.

Mikhail J. Fertilis
Signature

02/26/98
Date

Distribution: (1) Lab Copy, (2) Region Copy

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
EPA HOUSTON LABORATORY
10625 FALLSTONE ROAD
HOUSTON, TEXAS 77099

RESUBMITTED DATA REVIEW REPORT

DATE: April 20, 1998 CASE #: 25969
SDG #: MFHL94
TO: B. Kirchner LAB: AATS
6SF-RA SITE: DOYLE F J
TRANSFORMERS
FROM: Mike Fertitta TDF #: 6-8166A
ESAT - Region 6 PAGE #: 1 of 1
FILE: I-2170 CONTRACT #: 68-D6-0005

EFFECTS OF RESUBMITTED INFORMATION ON THE ORIGINAL DATA:

Laboratory response--CCS (received 04/13/98):

The laboratory submitted corrected pages 18, 74, and 147 in response to CCS items. These pages should not be used as more corrections to them are expected in response to Regional requests.

COVER SHEET

LABORATORY RESPONSE TO RESULTS OF
CONTRACT COMPLIANCE SCREENING (CCS)

Response To: (Check One)

Organic CCS

☒

Inorganic CCS

Response materials should be sent to the attention of the CCS Coordinator.

Labcode:

AATS

Response Date:

4-9-98

Date Screening
Results Received
at Laboratory:

2-30-98

EPA Contract No.

18-D5-0141

Case No.

25969

SDG No.

MFHL94

Sample Nos.*

S

MEHMO9

MEHMI4

MEHMO55

MEHMI0

CRT

MEHMO5L

CCV

ICSA

MEHMO6

CCB

ICSAB

MEHMO7

MEHMI1

MEHMO8

MEHMI3

*Only list sample numbers that require reconciliation.

This form is used to identify materials sent in response to results of Contract Compliance Screening (CCS). A separate form must accompany the response for each SDG.

Please indicate (on the attached continuation form) which fractions and/or which criteria correspond with your resubmission. Response materials sent to CCS should also be copied to the Region with this blue Cover Sheet.

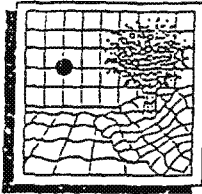
*** ACTIVITY REPORT ***

TRANSMISSION OK

TI/RX NO.	7357
CONNECTION TEL	17139882994
CONNECTION ID	
START TIME	02/24 14:58
USAGE TIME	01'11
PAGES	2
RESULT	OK

FAX

COVER SHEET



Southwest
Laboratory
of
Oklahoma,
Inc.
1700 W. Albany
Broken Arrow,
OK 74012-1421
Office: 918-251-2858
FAX: 918-251-2599

DATE: 2-24-98 # PAGES: 2
(Including Cover)

TO: Mike Frikla
Lockheed Martin
Fax # (413) 988-2994

FROM: LM Morrison
AATS

COMMENTS: From 14
Case: 25969
SDG: MFHL94

PRIVILEGE AND CONFIDENTIALITY NOTICE

This message is intended only for the use of the individual(s) to whom it is addressed and may contain information that is privileged and/or confidential. If the reader of this message is not the intended recipient or the employee or agent responsible for delivering the message to the intended recipient you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately at (918) 251-2858 and return the original message to us at the address above via the U.S. Postal Service.

{ADG06-1293-02}

SOUTHWEST LABORATORY OF OKLAHOMA, INC.
AMERICAN ANALYTICAL & TECHNICAL SERVICES, INC.
1700 West Albany / Broken Arrow, Oklahoma 74012 / Office (918) 251-2858 / Fax (918) 251-2599

CLIENT/LABORATORY COMMUNICATION SYSTEM
Telephone Record Log

SWL ____ / AAT X In reference to Case / Contract / Proposal 25969
Date of Call: 2-23-98
Laboratory Contact: Terborah Inman
Client Name: Lockheed Martin
Client Contact: Mike Fralita
Call Initiated By: ____ Laboratory X Region

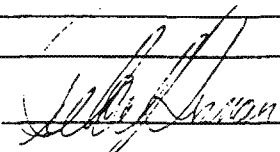
In reference to data for the following sample number(s):

Summary of Questions/Issues Discussed:

The Form 14 is missing that covers the
ICP data for pages 121-139. There was
a duplicate Form 14 in the case so this
one was missing

Summary of Resolution:

We will fax the appropriate Form 14 to
him along with sending the hard copy to the
appropriate places for EC's response

Signature: 

Date: 2-23-98

Distribution: (1) Lab Copy, (2) Region Copy, (3) CLASS Copy

EPA SAMPLE NO.

MFHM10

[illegible]

Comments:

14

End Date: 01/27/98

Analytes

147

Standardization Rpt.

Thu 01-29-98 11:21:37 PM

pag

Method: 61ET2

Standard: STD1

805 RT 2215

Elem	As	Tl	Al	Ba	Be	Cd	Ca
Avge	18.60	12.89	46.29	51.52	2937.	1199.	31.80
SDev	.12	.08	.03	.04	4.	2.	.04
%RSD	.6710	.6156	.0662	.0811	.1249	.1735	.1119

#1	18.64	12.80	46.30	51.55	2933.	1197.	31.76
#2	18.71	12.90	46.26	51.47	2936.	1199.	31.79
#3	18.46	12.96	46.32	51.54	2941.	1201.	31.83

Elem	Cr	Co	Cu	Fe	Mg	Mn	Ni
Avge	217.8	14.62	37.97	58.02	10.60	83.32	28.52
SDev	.3	.03	.01	.10	.02	.07	.06
%RSD	.1159	.1790	.0236	.1734	.1939	.0877	.1955

#1	217.5	14.59	37.96	57.95	10.58	83.28	28.45
#2	217.9	14.62	37.97	57.96	10.60	83.28	28.53
#3	217.9	14.64	37.97	58.13	10.62	83.40	28.56

Elem	K	Ag	Na	V	Zn	220Pb1	220Pb2
Avge	87.09	85.36	38.14	18.00	10.48	203.9	125.0
SDev	.09	.11	.04	.03	.01	1.0	.4
%RSD	.0988	.1334	.1141	.1397	.0635	.5113	.3278

#1	86.99	85.35	38.18	17.99	10.48	203.0	124.8
#2	87.12	85.25	38.10	17.98	10.47	205.0	124.7
#3	87.15	85.48	38.14	18.03	10.48	203.7	125.5

Elem	196Se1	196Se2	206Sb1	206Sb2	B	Sc	Sr
Avge	14.05	16.08	52.92	28.84	419.8	724.1	1715.
SDev	.09	.13	.81	.31	1.0	.6	2.
%RSD	.6200	.7777	1.533	1.091	.2277	.0326	.0963

#1	13.95	16.02	52.25	28.49	418.8	723.9	1715.
#2	14.13	15.99	52.69	28.95	420.0	723.6	1713.
#3	14.06	16.22	53.82	29.09	420.7	724.8	1716.

Elem	Tl	Sn
Avge	301.2	75.43
SDev	.3	.39
%RSD	.0971	.5155

#1	301.1	75.11
#2	300.9	75.32
#3	301.5	75.86

EPA SAMPLE NO.

Lab Name: AMERICAN_ANALYTICAL Contract: 68-D5-0141
Lab Code: AATS Case No.: 25969 SAS No.: SDG No.: MFHL94
Matrix (soil/water): SOIL Lab Sample ID: 32431.02
Level (low/med): LOW Date Received: 01/15/98
% Solids: 75.7

[illegible]

Color Before: BROWN Clarity Before: Texture: MEDIUM
Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments :

EPA SAMPLE NO.

MFHL95

[illegible]

Texture: MEDIUM
Artifacts:

Comments :

EPA SAMPLE NO.

MEHL97

Lab Name: AMERICAN_ANALYTICAL Contract: 68-D5-0141
Lab Code: AATS Case No.: 25969 SAS No.: SDG No.: MFHL94
Matrix (soil/water): SOIL Lab Sample ID: 32431.05
Level (low/med): LOW Date Received: 01/15/98
% Solids: 76.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

[illegible]

Color Before: BROWN Clarity Before: Texture: MEDIUM
Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

EPA SAMPLE NO.

MFHL99

% Solids: 77.9

[illegible]

Texture: MEDIUM
Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFHM00

Lab Name: AMERICAN ANALYTICAL Contract: 68-D5-0141
 Lab Code: AATS Case No.: 25969 SAS No.: SDG No.: MFHL94
 Matrix (soil/water): SOIL Lab Sample ID: 32431.08
 Level (low/med): LOW Date Received: 01/15/98
 % Solids: 74.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	16500	-	*	P
7440-36-0	Antimony	0.80	U	N	P
7440-38-2	Arsenic	6.8	-	-	P
7440-39-3	Barium	214	-	-	P
7440-41-7	Beryllium	1.1	B	-	P
7440-43-9	Cadmium	0.27	U	-	P
7440-70-2	Calcium	11100	-	E	P
7440-47-3	Chromium	22.7	-	*	P
7440-48-4	Cobalt	13.8	-	-	P
7440-50-8	Copper	54.7	-	-	P
7439-89-6	Iron	19200	-	-	P
7439-92-1	Lead	35.3	-	-	P
7439-95-4	Magnesium	1930	-	-	P
7439-96-5	Manganese	1400	-	-	P
7439-97-6	Mercury	0.11	B	-	CV
7440-02-0	Nickel	21.7	-	-	P
7440-09-7	Potassium	1810	-	-	P
7782-49-2	Selenium	1.3	U	-	P
7440-22-4	Silver	0.53	U	-	P
7440-23-5	Sodium	320	B	-	P
7440-28-0	Thallium	1.1	U	-	P
7440-62-2	Vanadium	59.2	-	-	P
7440-66-6	Zinc	117	-	E	P
	Cyanide	0.19	B	-	CA

Color Before: BROWN
 Color After: YELLOW

Clarity Before:
 Clarity After: CLEAR

Texture: MEDIUM
 Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFHM01

Lab Name: AMERICAN_ANALYTICAL Contract: 68-D5-0141
 Lab Code: AATS Case No.: 25969 SAS No.: SDG No.: MFHL94
 Matrix (soil/water): SOIL Lab Sample ID: 32431.09
 Level (low/med): LOW Date Received: 01/15/98
 % Solids: 80.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13300	-	*	P
7440-36-0	Antimony	1.1	B	N	P
7440-38-2	Arsenic	22.6	-		P
7440-39-3	Barium	206	-		P
7440-41-7	Beryllium	0.90	B		P
7440-43-9	Cadmium	0.85	B		P
7440-70-2	Calcium	67500	-	E	P
7440-47-3	Chromium	20.4	-	*	P
7440-48-4	Cobalt	10.8	B		P
7440-50-8	Copper	1760	-		P
7439-89-6	Iron	16700	-		P
7439-92-1	Lead	76.5	-		P
7439-95-4	Magnesium	3020	-		P
7439-96-5	Manganese	1340	-		P
7439-97-6	Mercury	0.06	U		CV
7440-02-0	Nickel	18.6	-		P
7440-09-7	Potassium	1870	-		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	0.50	U		P
7440-23-5	Sodium	359	B		P
7440-28-0	Thallium	0.99	U		P
7440-62-2	Vanadium	44.2	-		P
7440-66-6	Zinc	143	-	E	P
	Cyanide	0.23	B		CA

Color Before: BROWN
 Color After: YELLOW

Clarity Before:
 Clarity After: CLEAR

Texture: MEDIUM
 Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFHM03

Lab Name: AMERICAN_ANALYTICAL

Contract: 68-D5-0141

Lab Code: AATS

Case No.: 25969

SAS No.:

SDG No.: MFHL94

Matrix (soil/water): SOIL

Lab Sample ID: 32431.11

Level (low/med): LOW

Date Received: 01/15/98

% Solids: 64.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15600	-	*	P
7440-36-0	Antimony	0.93	U	N	P
7440-38-2	Arsenic	6.8	-		P
7440-39-3	Barium	139	-		P
7440-41-7	Beryllium	0.94	B		P
7440-43-9	Cadmium	0.42	B		P
7440-70-2	Calcium	133000	-	E	P
7440-47-3	Chromium	20.9	-	*	P
7440-48-4	Cobalt	8.2	B		P
7440-50-8	Copper	105	-		P
7439-89-6	Iron	12600	-		P
7439-92-1	Lead	59.7	-		P
7439-95-4	Magnesium	3330	-		P
7439-96-5	Manganese	897	-		P
7439-97-6	Mercury	0.14	B		CV
7440-02-0	Nickel	20.6	-		P
7440-09-7	Potassium	2030	-		P
7782-49-2	Selenium	1.6	U		P
7440-22-4	Silver	0.62	U		P
7440-23-5	Sodium	438	B		P
7440-28-0	Thallium	1.2	U		P
7440-62-2	Vanadium	49.7	-		P
7440-66-6	Zinc	152	-	E	P
	Cyanide	0.35	B		CA

Color Before: BROWN
Color After: YELLOW

Clarity Before:
Clarity After: CLEAR

Texture: MEDIUM
Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

MFHM04

Lab Name: AMERICAN_ANALYTICAL Contract: 68-D5-0141
 Lab Code: AATS Case No.: 25969 SAS No.: SDG No.: MFHL94
 Matrix (soil/water): SOIL Lab Sample ID: 32431.12
 Level (low/med): LOW Date Received: 01/15/98
 % Solids: 62.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	14900	-	*	P
7440-36-0	Antimony	0.97	U	N	P
7440-38-2	Arsenic	7.6	-	-	P
7440-39-3	Barium	148	-	-	P
7440-41-7	Beryllium	0.98	B	-	P
7440-43-9	Cadmium	0.48	B	-	P
7440-70-2	Calcium	139000	-	E	P
7440-47-3	Chromium	20.5	-	*	P
7440-48-4	Cobalt	8.6	B	-	P
7440-50-8	Copper	115	-	-	P
7439-89-6	Iron	15700	-	-	P
7439-92-1	Lead	62.2	-	-	P
7439-95-4	Magnesium	3450	-	-	P
7439-96-5	Manganese	949	-	-	P
7439-97-6	Mercury	0.08	U	-	CV
7440-02-0	Nickel	21.3	-	-	P
7440-09-7	Potassium	2000	-	-	P
7782-49-2	Selenium	1.6	U	-	P
7440-22-4	Silver	0.64	U	-	P
7440-23-5	Sodium	436	B	-	P
7440-28-0	Thallium	1.3	U	-	P
7440-62-2	Vanadium	51.2	-	-	P
7440-66-6	Zinc	169	-	E	P
	Cyanide	0.80	-	-	CA

Color Before: BROWN
 Color After: YELLOW

Clarity Before:
 Clarity After: CLEAR

Texture: MEDIUM
 Artifacts:

Comments:

EPA SAMPLE NO.

MFHM05

Concentration Units (ug/L or mg/kg dry weight): MG/KG

[illegible]

Comments:

EPA SAMPLE NO.

% Solids: 73.9

[illegible]

ED 002624 00006173-00312

MEHMO7

SDG No. : MFHL94

SAS No. :

Lab Sample ID: 32431.15

Date Received: 01/15/98

Date Received: 01/15/98

[illegible]

Texture: MEDIUM
Artifacts:

Comments:

1

INORGANIC ANALYSES DATA SHEET

016
EPA SAMPLE NO.

MFHM08

Lab Name: AMERICAN_ANALYTICAL Contract: 68-D5-0141
Lab Code: AATS Case No.: 25969 SAS No.: SDG No.: MFHL94
Matrix (soil/water): SOIL Lab Sample ID: 32431.16
Level (low/med): LOW Date Received: 01/15/98
% Solids: 61.7

[illegible]

Color Before: BROWN
Color After: YELLOW

Clarity Before: _____
Clarity After: CLEAR

Texture: MEDIUM
Artifacts:

Comments:

017

1

INORGANIC ANALYSES DATA SHEET

Lab Name: AMERICAN_ANALYTICAL Contract: 68-D5-0141
Lab Code: AATS Case No.: 25969 SAS No.: SDG No.: MFHL94
Matrix (soil/water): SOIL Lab Sample ID: 32431.17
Level (low/med): LOW Date Received: 01/15/98
% Solids: 66.6

[illegible]

Color Before: BROWN Clarity Before: Texture: MEDIUM
Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MFHM10

Lab Name: AMERICAN_ANALYTICAL Contract: 68-D5-0141
 Lab Code: AATS Case No.: 25969 SAS No.: SDG No.: MFHL94
 Matrix (soil/water): SOIL Lab Sample ID: 32431.18
 Level (low/med): LOW Date Received: 01/14/98
 % Solids: 78.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	15800	-	*	P
7440-36-0	Antimony	0.76	U	N	P
7440-38-2	Arsenic	6.6	-	-	P
7440-39-3	Barium	129	-	-	P
7440-41-7	Beryllium	0.86	B	-	P
7440-43-9	Cadmium	0.25	U	-	P
7440-70-2	Calcium	48400	-	E	P
7440-47-3	Chromium	18.3	-	*	P
7440-48-4	Cobalt	5.9	B	-	P
7440-50-8	Copper	22.9	-	-	P
7439-89-6	Iron	12900	-	-	P
7439-92-1	Lead	13.6	-	-	P
7439-95-4	Magnesium	2850	-	-	P
7439-96-5	Manganese	494	-	-	P
7439-97-6	Mercury	0.06	U	-	CV
7440-02-0	Nickel	15.1	-	-	P
7440-09-7	Potassium	1810	-	-	P
7782-49-2	Selenium	1.3	U	-	P
7440-22-4	Silver	0.51	U	-	P
7440-23-5	Sodium	352	B	-	P
7440-28-0	Thallium	1.1	B	-	P
7440-62-2	Vanadium	39.6	-	-	P
7440-66-6	Zinc	65.2	-	E	P
	Cyanide	0.19	B	-	CA

Color Before: BROWN
 Color After: YELLOW

Clarity Before:
 Clarity After: CLEAR

Texture: MEDIUM
 Artifacts:

Comments:

EPA SAMPLE NO.

Lab Name: AMERICAN_ANALYTICAL Contract: 68-D5-0141
Lab Code: AATS Case No.: 25969 SAS No.:
Matrix (soil/water): SOIL Lab Samp
Level (low/med): LOW Date Rec
% Solids: 81.3

Lab Sample ID: 32431.19
Date Received: 01/15/98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Color Before: BROWN_____ Clarity Before: _____ Texture: MEDIUM
Color After: YELLOW_____ Clarity After: CLEAR_____ Artifacts: _____

Comments:

EPA SAMPLE NO.

Lab Name: AMERICAN_ANALYTICAL Contract: 68-D5-0141
Lab Code: AATS Case No.: 25969 SAS No.: SDG No.: MFHL94
Matrix (soil/water): SOIL Lab Sample ID: 32431.20
Level (low/med): LOW Date Received: 01/15/98
% Solids: 73.0

[illegible]

Color Before: BROWN
Color After: YELLOW

Clarity Before: _____
Clarity After: CLEAR

Texture: MEDIUM
Artifacts:

Comments:

EPA SAMPLE NO.

MFHM14

% Solids: 65.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Color Before: BROWN Clarity Before: Texture: MEDIUM
Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
ENVIRONMENTAL SERVICES BRANCH
10625 FALLSTONE ROAD
HOUSTON, TEXAS 77099

February 12, 1998

Allen Seils
PA/SI Program (MC 142)
Superfund Site Discovery and Assessment Program
Emergency Response & Assessment Program
Pollution Cleanup Division
Texas Natural Resource Conservation Commission
P.O. Box 13087
Austin, Texas 78711-3087

Dear Mr. Seils;

Attached are the EPA Region 6 Laboratory results for samples submitted from Frank J. Doyle Transformer. Five samples were received for analysis on January 14, 1998. The laboratory numbers assigned to these samples are 8FAXDW0201 through 8FAXDW0205.

Standard procedures for quality assurance and quality control were followed in the analysis, review, and reporting of these samples. These procedures are documented in the laboratory's Quality Management Plan, and in laboratory standard operating procedures (SOPs). Results relate only to the samples tested. This final report should only be reproduced in full.

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas A. Lipka", written over a circular stamp.

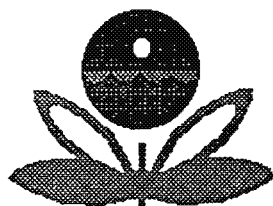
Douglas A. Lipka
Chief

Region 6 Environmental Laboratory

Attachments (5)

cc: B. Kirchner; 6SF-RA w/o attachments

Feb 12 1998



Houston Branch Management System

Report for Sample Number **8FAXDW0201**

Source: FRANK J. DOYLE TRANSFORMER

Site Description: GW01

Date/Time Received: 1/14/98 9:30

Date/Time Collected: 1/13/98 8:50

Sample Type: DW

Date Completed: 2/11/98

Comments:

FEB 26 1998

[illegible]

ORGANIC ANALYSIS DATA

Sample Number: 8FAXDW02-01

Date Reported: 6-Feb-98

Analyst: Kenneth W. Stevens

Sample Type: DW

VOLATILE COMPOUNDS BY METHOD 624

Compound Name	units - microgram/liter - µg/l	
	Results*	Detection Limits
acetone-----	ND	5
benzene-----	ND	2
bromodichloromethane-----	ND	2
bromoform-----	ND	2
2-butanone-----	ND	5
bromomethane-----	ND	5
carbon disulfide-----	ND	5
carbon tetrachloride-----	ND	2
chlorobenzene-----	ND	5
chloroethane-----	ND	5
chloroform-----	ND	2
chloromethane-----	ND	5
dibromochloromethane-----	ND	2
1,1-dichloroethane-----	ND	2
1,1-dichloroethene-----	ND	2
1,2-dichloroethane-----	ND	2
cis-1,2-dichloroethene-----	ND	2
trans-1,2-dichloroethene-----	ND	2
1,2-dichloropropane-----	ND	2
cis-1,3-dichloropropene-----	ND	2
trans-1,3-dichloropropene-----	ND	2
ethylbenzene-----	ND	5
2-hexanone-----	ND	5
methylene chloride-----	ND	5
4-methyl-2-pentanone-----	ND	15
styrene-----	ND	5
1,1,2,2-tetrachloroethane-----	ND	2
tetrachloroethene-----	ND	2
toluene-----	ND	5
1,1,1-trichloroethane-----	ND	2
1,1,2-trichloroethane-----	ND	2
trichloroethene-----	ND	2
vinyl chloride-----	ND	5
ortho-xylene-----	ND	5
para- and/or meta-xylene-----	ND	5

* ND --- Means not detected above the listed detection limits.

ORGANIC ANALYSIS DATA

6MD-HO Sample NO: 8FAXDW02-01

Date Reported: 23-Jan-98

Analyst: D.Gregg/B. Schuppener

Sample Type: WATER

SEMI-VOLATILE COMPOUNDS BY METHOD 625

(continuous extractor)

units: ug/L

units: ug/L

Compound Name	Results*	Det Limits	Compound Name	Results*	Det Limits
Acenaphthene	ND	2	2,4-Dinitrophenol	ND	30
Acenaphthylene	ND	2	2,4-Dinitrotoluene	ND	6
Anthracene	ND	2	2,6-Dinitrotoluene	ND	6
Benzoic Acid	ND	10	4,6-Dinitro-2-Methylphenol	ND	20
Benzo(a)Anthracene	ND	8	Di-n-Butylphthalate	ND	2
Benzo(a)Pyrene	ND	8	Di-n-Octyl Phthalate	ND	4
Benzo(b)Fluoranthene	ND	8	Fluoranthene	ND	2
Benzo(g,h,i)Perylene	ND	8	Fluorene	ND	2
Benzo(k)Fluoranthene	ND	8	Hexachlorobenzene	ND	2
Benzyl Alcohol	ND	4	Hexachlorobutadiene	ND	5
bis(2-Chloroethoxy)Methane	ND	2	Hexachlorocyclopentadiene	ND	10
bis(2-Chloroethyl) Ether	ND	2	Hexachloroethane	ND	3
bis(2-chloroisopropyl)Ether	ND	2	Indeno(1,2,3-cd) Pyrene	ND	8
bis-(2-Ethylhexyl)Phthalate	ND	4	Isophorone	ND	4
4-Bromophenylphenyl Ether	ND	8	2-Methylnaphthalene	ND	2
Butylbenzylphthalate	ND	4	2-Methylphenol	ND	6
Carbazole	ND	2	4-Methylphenol	ND	6
4-Chloroaniline	ND	4	Naphthalene	ND	2
2-Chloronaphthalene	ND	2	2-Nitroaniline	ND	8
2-Chlorophenol	ND	4	3-Nitroaniline	ND	8
4-Chlorophenylphenyl Ether	ND	8	4-Nitroaniline	ND	8
4-Chloro-3-Methylphenol	ND	8	Nitrobenzene	ND	2
Chrysene	ND	8	2-Nitrophenol	ND	10
Dibenzofuran	ND	2	4-Nitrophenol	ND	13
Dibenzo(a,h)Anthracene	ND	8	N-Nitrosodiphenylamine	ND	4
1,2-Dichlorobenzene	ND	3	N-Nitroso-Di-n-Propylamine	ND	6
1,3-Dichlorobenzene	ND	3	Pentachlorophenol	ND	15
1,4-Dichlorobenzene	ND	3	Phenanthrene	ND	2
3,3'-Dichlorobenzidine	ND	10	Phenol	ND	4
2,4-Dichlorophenol	ND	6	Pyrene	ND	2
Diethylphthalate	ND	2	1,2,4-Trichlorobenzene	ND	4
2,4-Dimethylphenol	ND	6	2,4,5-Trichlorophenol	ND	6
DimethylPhthalate	ND	2	2,4,6-Trichlorophenol	ND	6

(*) ND = Not detected above the listed detection limit.

(*) ND = Not detected above the listed detection limit.

Analyst Notes: none

ORGANIC ANALYSIS DATA

6MD-H Sample NO:8FAXDW02-01

Date Reported: 23-Jan-98

Analyst: D.Gregg/B. Schuppener

Matrix: WATER

TENTATIVELY IDENTIFIED SEMI-VOLATILE COMPOUNDS BY METHOD 625

units: ug/L

| (*) ANALYSTS NOTE: The compounds listed are tentatively identified by the best match with the NIH/EPA/Wiley mass
| spectral data base or by manual interpretation. Standards were not available for confirmation or quantitation.
|
| (**) Estimated concentration is based on a Response Factor of 1.0 to the nearest internal standard.

PESTICIDE/PCB ANALYSIS

SAMPLE NO.: 8FAXDW02-01
SAMPLE TYPE: Water
ANALYST: NGHIA NGUYEN

DATE REPORTED: 1/23/98

			<u>µG/L (PPB)</u>
<u>CAS #</u>			
319-84-6	Alpha-BHC	.....	ND DL=< 0.05
319-85-7	Beta-BHC	.....	ND DL=< 0.05
319-86-8	Delta-BHC	.....	ND DL=< 0.05
58-89-9	Gamma-BHC (Lindane )	.....	ND DL=< 0.05
76-44-8	Heptachlor	.....	ND DL=< 0.05
309-00-2	Aldrin	.....	ND DL=< 0.05
1024-57-3	Heptachlor Epoxide	.....	ND DL=< 0.05
949-98-8	Endosulfan I	.....	ND DL=< 0.05
60-57-1	Dieldrin	.....	ND DL=< 0.10
72-55-9	4,4' DDE	.....	ND DL=< 0.10
72-20-8	Endrin	.....	ND DL=< 0.10
33213-65-9	Endosulfan II	.....	ND DL=< 0.10
72-54-08	4,4' -DDD	.....	ND DL=< 0.10
742193-4	Endrin Aldehyde	.....	ND DL=< 0.10
53494-70-5	Endrin Ketone	.....	ND DL=< 0.10
10341-07-8	Endosulfan Sulfate	.....	ND DL=< 0.10
50-29-3	4,4' -DDT	.....	ND DL=< 0.10
72-43-5	Methoxychlor	.....	ND DL=< 0.10
5103-71-9	Alpha-Chlordane	.....	ND DL=< 0.05
5103-74-2	Gamma- Chlordane	.....	ND DL=< 0.05
8001-35-2	Toxaphene	.....	ND DL=< 5.00
12674-11-2	Aroclor 1016	.....	ND DL=< 1.00
11104-28-2	Aroclor 1221	.....	ND DL=< 2.00
11141-16-5	Aroclor 1232	.....	ND DL=< 1.00
53469-21-9	Aroclor 1242	.....	ND DL=< 1.00
12672-29-6	Aroclor 1248	.....	ND DL=< 1.00
11097-69-1	Aroclor 1254	.....	ND DL=< 1.00
11096-82-5	Aroclor 1260	.....	ND DL=< 1.00

ND DL = NOT DETECTED , DETECTION LIMIT

US EPA REGION 6 LABORATORY

SAMPLE #: 8FAXDW02-01 DATE RECEIVED: 14-JAN-98
SOURCE: FRANK J. DOLE TRANSFORMER
TYPE: AQUEOUS DATE REPORTED: 02-FEB-98
ANALYSTS: RC, LC, KD, BB

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ALUMINUM	ND	100	UG/L
ANTIMONY	ND	60	UG/L
ARSENIC	ND	3.0	UG/L
BARIUM	ND	10	UG/L
BERYLLIUM	ND	5	UG/L
CADMIUM	ND	5	UG/L
CALCIUM	856	150	UG/L
CHROMIUM	ND	10	UG/L
COBALT	ND	20	UG/L
COPPER	ND	20	UG/L
IRON	67	25	UG/L
LEAD	ND	3.0	UG/L
MAGNESIUM	314	150	UG/L
MANGANESE	5	5	UG/L
MERCURY	ND	0.1	UG/L
NICKEL	ND	20	UG/L
POTASSIUM	ND	1000	UG/L
SELENIUM	ND	3.0	UG/L
SILVER	ND	10	UG/L
SODIUM	271000	500	UG/L
THALLIUM	ND	5.0	UG/L
VANADIUM	ND	30	UG/L
ZINC	ND	20	UG/L
CYANIDE	ND	0.02	MG/L

ND: LESS THAN DETECTION LIMIT



01/22/98 03:39 pm

TNRCC LABORATORY Analytical Results

REPORT: RPT15F/NL

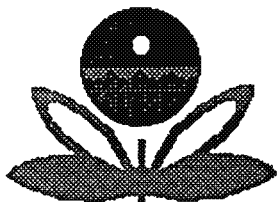
TNRCC Sample# : 9800126 Tag/COC # : 8FAXDW02-01 Sample Matrix : LIQUID REGION : 0
 Sample Collector : EPA 19980069 Program Code : EPA Station ID / # :
 Sample Collected : 1/13/98 0:00 am Sample Received : 1/15/98 9:10 am Sample Depth :
 Sample Collection Site : Frank J. Doyle Transformer

Storet Code	Parameter Name	Analytical Result	Units	Analytical Notes
00720	Cyanide, Total	<0.02	mg/L	
Ending Page for TNRCC Sample # : 9800126				

Sample
Comments:

Lab Approval :

Approval Date : 22-Jan-98



U.S. Environmental Protection Agency

Houston Branch Management System

Report for Sample Number **8FAXDW0202**

Source: **FRANK J. DOYLE TRANSFORMER**

Site Description: **GW02**

Date/Time Received: 1/14/98 9:30

Date/Time Collected: 1/13/98 8:55

Sample Type: ☒ DW

Date Completed: 2/11/98

Comments:

[illegible]

ORGANIC ANALYSIS DATA

Sample Number: 8FAXDW02-02

Date Reported: 6-Feb-98

Analyst: Kenneth W. Stevens

Sample Type: DW

VOLATILE COMPOUNDS BY METHOD 624

Compound Name	units - microgram/liter - µg/l	
	Results*	Detection Limits
acetone-----	ND	5
benzene-----	ND	2
bromodichloromethane-----	ND	2
bromoform-----	ND	2
2-butanone-----	ND	5
bromomethane-----	ND	5
carbon disulfide-----	ND	5
carbon tetrachloride-----	ND	2
chlorobenzene-----	ND	5
chloroethane-----	ND	5
chloroform-----	ND	2
chloromethane-----	ND	5
dibromochloromethane-----	ND	2
1,1-dichloroethane-----	ND	2
1,1-dichloroethene-----	ND	2
1,2-dichloroethane-----	ND	2
cis-1,2-dichloroethene-----	ND	2
trans-1,2-dichloroethene-----	ND	2
1,2-dichloropropane-----	ND	2
cis-1,3-dichloropropene-----	ND	2
trans-1,3-dichloropropene-----	ND	2
ethylbenzene-----	ND	5
2-hexanone-----	ND	5
methylene chloride-----	ND	5
4-methyl-2-pentanone-----	ND	15
styrene-----	ND	5
1,1,2,2-tetrachloroethane-----	ND	2
tetrachloroethene-----	ND	2
toluene-----	ND	5
1,1,1-trichloroethane-----	ND	2
1,1,2-trichloroethane-----	ND	2
trichloroethene-----	ND	2
vinyl chloride-----	ND	5
ortho-xylene-----	ND	5
para- and/or meta-xylene-----	ND	5

* ND --- Means not detected above the listed detection limits.

ORGANIC ANALYSIS DATA

6MD-HO Sample NO: 8FAXDW02-02

Date Reported: 23-Jan-98

Analyst: D.Gregg/B. Schuppener

Sample Type: WATER

SEMI-VOLATILE COMPOUNDS BY METHOD 625

(continuous extractor)

units: ug/L

units: ug/L

Compound Name	Results*	Det Limits	Compound Name	Results*	Det Limits
Acenaphthene	ND	2	2,4-Dinitrophenol	ND	30
Acenaphthylene	ND	2	2,4-Dinitrotoluene	ND	6
Anthracene	ND	2	2,6-Dinitrotoluene	ND	6
Benzoic Acid	ND	10	4,6-Dinitro-2-Methylphenol	ND	20
Benzo(a)Anthracene	ND	8	Di-n-Butylphthalate	ND	2
Benzo(a)Pyrene	ND	8	Di-n-Octyl Phthalate	ND	4
Benzo(b)Fluoranthene	ND	8	Fluoranthene	ND	2
Benzo(g,h,i)Perylene	ND	8	Fluorene	ND	2
Benzo(k)Fluoranthene	ND	8	Hexachlorobenzene	ND	2
Benzyl Alcohol	ND	4	Hexachlorobutadiene	ND	5
bis(2-Chloroethoxy)Methane	ND	2	Hexachlorocyclopentadiene	ND	10
bis(2-Chloroethyl) Ether	ND	2	Hexachloroethane	ND	3
bis(2-chloroisopropyl)Ether	ND	2	Indeno(1,2,3-cd) Pyrene	ND	8
bis-(2-Ethylhexyl)Phthalate	ND	4	Isophorone	ND	4
4-Bromophenylphenyl Ether	ND	8	2-Methylnaphthalene	ND	2
Butylbenzylphthalate	ND	4	2-Methylphenol	ND	6
Carbazole	ND	2	4-Methylphenol	ND	6
4-Chloroaniline	ND	4	Naphthalene	ND	2
2-Chloronaphthalene	ND	2	2-Nitroaniline	ND	8
2-Chlorophenol	ND	4	3-Nitroaniline	ND	8
4-Chlorophenylphenyl Ether	ND	8	4-Nitroaniline	ND	8
4-Chloro-3-Methylphenol	ND	8	Nitrobenzene	ND	2
Chrysene	ND	8	2-Nitrophenol	ND	10
Dibenzofuran	ND	2	4-Nitrophenol	ND	13
Dibenzo(a,h)Anthracene	ND	8	N-Nitrosodiphenylamine	ND	4
1,2-Dichlorobenzene	ND	3	N-Nitroso-Di-n-Propylamine	ND	6
1,3-Dichlorobenzene	ND	3	Pentachlorophenol	ND	15
1,4-Dichlorobenzene	ND	3	Phenanthrene	ND	2
3,3'-Dichlorobenzidine	ND	10	Phenol	ND	4
2,4-Dichlorophenol	ND	6	Pyrene	ND	2
Diethylphthalate	ND	2	1,2,4-Trichlorobenzene	ND	4
2,4-Dimethylphenol	ND	6	2,4,5-Trichlorophenol	ND	6
DimethylPhthalate	ND	2	2,4,6-Trichlorophenol	ND	6

(*) ND = Not detected above the listed detection limit.

(*) ND = Not detected above the listed detection limit.

Analyst Notes: none

6MD-H Sample NO:8FAXDW02-02

Date Reported: 23-Jan-98

Analyst: D.Gregg/B. Schuppener

Matrix: WATER

TENTATIVELY IDENTIFIED SEMI-VOLATILE COMPOUNDS BY METHOD 625

units: ug/L

(*) ANALYSTS NOTE: The compounds listed are tentatively identified by the best match with the NIH/EPA/Wiley mass spectral data base or by manual interpretation. Standards were not available for confirmation or quantitation.

(**) Estimated concentration is based on a Response Factor of 1.0 to the nearest internal standard.

PESTICIDE/PCB ANALYSIS

SAMPLE NO.: 8FAXDW02-02
 SAMPLE TYPE: Water
 ANALYST: NGHIA NGUYEN

DATE REPORTED: 1/23/98

		<u>µG/L (PPB)</u>
<u>CAS #</u>		
319-84-6	Alpha-BHC	ND DL=< 0.05
319-85-7	Beta-BHC	ND DL=< 0.05
319-86-8	Delta-BHC	ND DL=< 0.05
58-89-9	Gamma-BHC (Lindane)	ND DL=< 0.05
76-44-8	Heptachlor	ND DL=< 0.05
309-00-2	Aldrin	ND DL=< 0.05
1024-57-3	Heptachlor Epoxide	ND DL=< 0.05
949-98-8	Endosulfan I	ND DL=< 0.05
60-57-1	Dieldrin	ND DL=< 0.10
72-55-9	4,4' DDE	ND DL=< 0.10
72-20-8	Endrin	ND DL=< 0.10
33213-65-9	Endosulfan II	ND DL=< 0.10
72-54-08	4,4' -DDD	ND DL=< 0.10
742193-4	Endrin Aldehyde	ND DL=< 0.10
53494-70-5	Endrin Ketone	ND DL=< 0.10
10341-07-8	Endosulfan Sulfate	ND DL=< 0.10
50-29-3	4,4' -DDT	ND DL=< 0.10
72-43-5	Methoxychlor	ND DL=< 0.10
5103-71-9	Alpha-Chlordane	ND DL=< 0.05
5103-74-2	Gamma- Chlordane	ND DL=< 0.05
8001-35-2	Toxaphene	ND DL=< 5.00
12674-11-2	Aroclor 1016	ND DL=< 1.00
11104-28-2	Aroclor 1221	ND DL=< 2.00
11141-16-5	Aroclor 1232	ND DL=< 1.00
53469-21-9	Aroclor 1242	ND DL=< 1.00
12672-29-6	Aroclor 1248	ND DL=< 1.00
11097-69-1	Aroclor 1254	ND DL=< 1.00
11096-82-5	Aroclor 1260	ND DL=< 1.00

ND DL = NOT DETECTED , DETECTION LIMIT

US EPA REGION 6 LABORATORY

SAMPLE #: 8FAXDW02-02 DATE
 RECEIVED: 14-JAN-98
SOURCE: FRANK J. DOLE TRANSFORMER
TYPE: AQUEOUS DATE
ANALYSTS: RC, LC, KD, BB REPORTED: 02-FEB-98

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ALUMINUM	ND	100	UG/L
ANTIMONY	ND	60	UG/L
ARSENIC	ND	3.0	UG/L
BARIUM	ND	10	UG/L
BERYLLIUM	ND	5	UG/L
CADMIUM	ND	5	UG/L
CALCIUM	891	150	UG/L
CHROMIUM	ND	10	UG/L
COBALT	ND	20	UG/L
COPPER	ND	20	UG/L
IRON	72	25	UG/L
LEAD	ND	3.0	UG/L
MAGNESIUM	317	150	UG/L
MANGANESE	5	5	UG/L
MERCURY	ND	0.1	UG/L
NICKEL	ND	20	UG/L
POTASSIUM	ND	1000	UG/L
SELENIUM	ND	3.0	UG/L
SILVER	ND	10	UG/L
SODIUM	276000	500	UG/L
THALLIUM	ND	5.0	UG/L
VANADIUM	ND	30	UG/L
ZINC	ND	20	UG/L
CYANIDE	ND	0.02	MG/L

ND: LESS THAN DETECTION LIMIT



01/22/98 03:39 pm

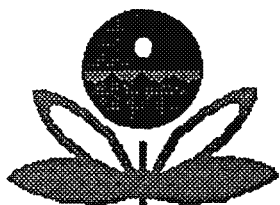
TNRCC LABORATORY
Analytical Results

REPORT / RPT15FYNL

TNRCC Sample# : 9800127		Tag/COC # : 8FAXDW02-02	Sample Matrix : LIQUID	REGION : 0
Sample Collector : EPA		19980069	Program Code : EPA	Station ID / # : /
Sample Collected : 1/13/98 0:00 am		Sample Received : 1/15/98 9:10 am		Sample Depth :
Sample Collection Site	Frank J. Doyle Transformer			

Storet Code	Parameter Name	Analytical Result	Units	Analytical Notes
00720	Cyanide, Total	<0.02	mg/L	
Ending Page for TNRCC Sample # : 9800127				

**Sample
Comments:****Lab Approval :****Approval Date : 22-Jan-98**



Report for Sample Number **8FAXDW0203**

Comments:

[illegible]

ORGANIC ANALYSIS DATA

Sample Number: 8FAXDW02-03

Date Reported: 6-Feb-98

Analyst: Kenneth W. Stevens

Sample Type: DW

VOLATILE COMPOUNDS BY METHOD 624

Compound Name	units - microgram/liter - µg/l	
	Results*	Detection Limits
acetone-----	ND	5
benzene-----	ND	2
bromodichloromethane-----	ND	2
bromoform-----	ND	2
2-butanone-----	ND	5
bromomethane-----	ND	5
carbon disulfide-----	ND	5
carbon tetrachloride-----	ND	2
chlorobenzene-----	ND	5
chloroethane-----	ND	5
chloroform-----	ND	2
chloromethane-----	ND	5
dibromochloromethane-----	ND	2
1,1-dichloroethane-----	ND	2
1,1-dichloroethene-----	ND	2
1,2-dichloroethane-----	ND	2
cis-1,2-dichloroethene-----	ND	2
trans-1,2-dichloroethene-----	ND	2
1,2-dichloropropane-----	ND	2
cis-1,3-dichloropropene-----	ND	2
trans-1,3-dichloropropene-----	ND	2
ethylbenzene-----	ND	5
2-hexanone-----	ND	5
methylene chloride-----	ND	5
4-methyl-2-pentanone-----	ND	15
styrene-----	ND	5
1,1,2,2-tetrachloroethane-----	ND	2
tetrachloroethene-----	ND	2
toluene-----	ND	5
1,1,1-trichloroethane-----	ND	2
1,1,2-trichloroethane-----	ND	2
trichloroethene-----	ND	2
vinyl chloride-----	ND	5
ortho-xylene-----	ND	5
para- and/or meta-xylene-----	ND	5

* ND --- Means not detected above the listed detection limits.

ORGANIC ANALYSIS DATA

6MD-HO Sample NO: 8FAXDW02-03

Date Reported: 23-Jan-98

Analyst: D.Gregg/B. Schuppener

Sample Type: WATER

SEMI-VOLATILE COMPOUNDS BY METHOD 625

(continuous extractor)

units: ug/L

units: ug/L

Compound Name	Results*	Det Limits	Compound Name	Results*	Det Limits
Acenaphthene	ND	2	2,4-Dinitrophenol	ND	30
Acenaphthylene	ND	2	2,4-Dinitrotoluene	ND	6
Anthracene	ND	2	2,6-Dinitrotoluene	ND	6
Benzoic Acid	ND	10	4,6-Dinitro-2-Methylphenol	ND	20
Benzo(a)Anthracene	ND	8	Di-n-Butylphthalate	ND	2
Benzo(a)Pyrene	ND	8	Di-n-Octyl Phthalate	ND	4
Benzo(b)Fluoranthene	ND	8	Fluoranthene	ND	2
Benzo(g,h,i)Perylene	ND	8	Fluorene	ND	2
Benzo(k)Fluoranthene	ND	8	Hexachlorobenzene	ND	2
Benzyl Alcohol	ND	4	Hexachlorobutadiene	ND	5
bis(2-Chloroethoxy)Methane	ND	2	Hexachlorocyclopentadiene	ND	10
bis(2-Chloroethyl) Ether	ND	2	Hexachloroethane	ND	3
bis(2-chloroisopropyl)Ether	ND	2	Indeno(1,2,3-cd) Pyrene	ND	8
bis-(2-Ethylhexyl)Phthalate	9.9	4	Isophorone	ND	4
4-Bromophenylphenyl Ether	ND	8	2-Methylnaphthalene	ND	2
Butylbenzylphthalate	ND	4	2-Methylphenol	ND	6
Carbazole	ND	2	4-Methylphenol	ND	6
4-Chloroaniline	ND	4	Naphthalene	ND	2
2-Chloronaphthalene	ND	2	2-Nitroaniline	ND	8
2-Chlorophenol	ND	4	3-Nitroaniline	ND	8
4-Chlorophenylphenyl Ether	ND	8	4-Nitroaniline	ND	8
4-Chloro-3-Methylphenol	ND	8	Nitrobenzene	ND	2
Chrysene	ND	8	2-Nitrophenol	ND	10
Dibenzofuran	ND	2	4-Nitrophenol	ND	13
Dibenzo(a,h)Anthracene	ND	8	N-Nitrosodiphenylamine	ND	4
1,2-Dichlorobenzene	ND	3	N-Nitroso-Di-n-Propylamine	ND	6
1,3-Dichlorobenzene	ND	3	Pentachlorophenol	ND	15
1,4-Dichlorobenzene	ND	3	Phenanthrene	ND	2
3,3'-Dichlorobenzidine	ND	10	Phenol	ND	4
2,4-Dichlorophenol	ND	6	Pyrene	ND	2
Diethylphthalate	ND	2	1,2,4-Trichlorobenzene	ND	4
2,4-Dimethylphenol	ND	6	2,4,5-Trichlorophenol	ND	6
DimethylPhthalate	ND	2	2,4,6-Trichlorophenol	ND	6

(*) ND = Not detected above the listed detection limit.

(*) ND = Not detected above the listed detection limit.

Analyst Notes: none

6MD-H Sample NO:8FAXDW02-03

Date Reported: 23-Jan-98

Analyst: D.Gregg/B. Schuppener

Matrix: WATER

TENTATIVELY IDENTIFIED SEMI-VOLATILE COMPOUNDS BY METHOD 625

units: ug/L

ED_002624_00006173-00338

PESTICIDE/PCB ANALYSIS

SAMPLE NO.: 8FAXDW02-03
 SAMPLE TYPE: Water
 ANALYST: NGHIA NGUYEN

DATE REPORTED: 1/23/98

		<u>uG/L (PPB)</u>
<u>CAS #</u>		
319-84-6	Alpha-BHC	ND DL=< 0.05
319-85-7	Beta-BHC	ND DL=< 0.05
319-86-8	Delta-BHC	ND DL=< 0.05
58-89-9	Gamma-BHC (Lindane)	ND DL=< 0.05
76-44-8	Heptachlor	ND DL=< 0.05
309-00-2	Aldrin	ND DL=< 0.05
1024-57-3	Heptachlor Epoxide	ND DL=< 0.05
949-98-8	Endosulfan I	ND DL=< 0.05
60-57-1	Dieldrin	ND DL=< 0.10
72-55-9	4,4' DDE	ND DL=< 0.10
72-20-8	Endrin	ND DL=< 0.10
33213-65-9	Endosulfan II	ND DL=< 0.10
72-54-08	4,4' -DDD	ND DL=< 0.10
742193-4	Endrin Aldehyde	ND DL=< 0.10
53494-70-5	Endrin Ketone	ND DL=< 0.10
10341-07-8	Endosulfan Sulfate	ND DL=< 0.10
50-29-3	4,4' -DDT	ND DL=< 0.10
72-43-5	Methoxychlor	ND DL=< 0.10
5103-71-9	Alpha-Chlordane	ND DL=< 0.05
5103-74-2	Gamma- Chlordane	ND DL=< 0.05
8001-35-2	Toxaphene	ND DL=< 5.00
12674-11-2	Aroclor 1016	ND DL=< 1.00
11104-28-2	Aroclor 1221	ND DL=< 2.00
11141-16-5	Aroclor 1232	ND DL=< 1.00
53469-21-9	Aroclor 1242	ND DL=< 1.00
12672-29-6	Aroclor 1248	ND DL=< 1.00
11097-69-1	Aroclor 1254	ND DL=< 1.00
11096-82-5	Aroclor 1260	ND DL=< 1.00

ND DL = NOT DETECTED , DETECTION LIMIT

US EPA REGION 6 LABORATORY

SAMPLE #: 8FAXDW02-03 DATE RECEIVED: 14-JAN-98
SOURCE: FRANK J. DOLE TRANSFORMER
TYPE: AQUEOUS DATE REPORTED: 02-FEB-98
ANALYSTS: RC, LC, KD, BB

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ALUMINUM	ND	100	UG/L
ANTIMONY	ND	60	UG/L
ARSENIC	ND	3.0	UG/L
BARIUM	ND	10	UG/L
BERYLLIUM	ND	5	UG/L
CADMIUM	ND	5	UG/L
CALCIUM	987	150	UG/L
CHROMIUM	ND	10	UG/L
COBALT	ND	20	UG/L
COPPER	ND	20	UG/L
IRON	94	25	UG/L
LEAD	ND	3.0	UG/L
MAGNESIUM	387	150	UG/L
MANGANESE	ND	5	UG/L
MERCURY	ND	0.1	UG/L
NICKEL	ND	20	UG/L
POTASSIUM	ND	1000	UG/L
SELENIUM	ND	3.0	UG/L
SILVER	ND	10	UG/L
SODIUM	296000	500	UG/L
THALLIUM	ND	5.0	UG/L
VANADIUM	ND	30	UG/L
ZINC	ND	20	UG/L
CYANIDE	ND	0.02	MG/L

ND: LESS THAN DETECTION LIMIT